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EMPLOYMENT-UNEMPLOYMENT

HEARINGS

BEFORE THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

PART 34

JANUARY 6, FEBRUARY 3, AND MARCH 10, 1989

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EMPLOYMENT-UNEMPLOYMENT

FRIDAY, JANUARY 6, 1989

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m., in room 2359, Rayburn House Office Building, Hon. Lee H. Hamilton (chairman of the committee) presiding.

Present: Representatives Hamilton, Hawkins, and Solarz.

Also present: William Buechner, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, CHAIRMAN

Representative HAMILTON. The Joint Economic Committee will come to order.

On behalf of the members of the Joint Economic Committee, I am very pleased to welcome Commissioner Janet Norwood and her colleagues to their first appearance before the Joint Economic Committee this year. Commissioner Norwood is here this morning to testify on the employment and unemployment situation for December 1988.

In December, according to this morning's release, the civilian unemployment rate fell by one-tenth of a point to 5.3 percent. This matches the low mark set in October, even though the number of people unemployed in December was slightly higher than October. The unemployment rate for adult men fell in December, while the rate for blacks and teenagers rose.

Payroll employment in December increased by 279,000 jobs, continuing the strong growth that occurred throughout 1988. Most of the job growth was in the service-producing industries, which has been the typical pattern of recent years. But manufacturing employment also continued to grow, with manufacturing industries adding 34,000 new jobs in December.

For the year as a whole, there was a substantial reduction in the unemployment rate—from 5.8 percent at the end of 1987 to 5.3 percent at the end of 1988—and the number of people unemployed fell by 400,000. There was strong job growth during the year, with business expanding employment by 3.6 million. More than 400,000 of these new jobs were in manufacturing industries.

I might say for the record that the Joint Economic Committee is not yet organized, Madam Commissioner, and unless I be accused of usurping power, I want it known that the previous chairman has approved my presiding this morning and we are operating in limbo

until the committee gets organized. But I think that ought not to handicap us too much for the morning.

We are very, very pleased to have you with us, and we now turn to you for your analysis of these December figures and your look back, if you want to do that, at the year 1988.

STATEMENT OF HON. JANET L. NORWOOD, COMMISSIONER, BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, ACCOMPANIED BY THOMAS J. PLEWES, ASSOCIATE COMMISSIONER, OFFICE OF EMPLOYMENT AND UNEMPLOYMENT STATISTICS; AND PAUL ARMKNECHT, ASSISTANT COMMISSIONER, OFFICE OF CONSUMER PRICES AND PRICE INDEXES

Mrs. NORWOOD. Thank you very much, Mr. Chairman. We appreciate your being here. I have with me Tom Plewes, our employment and unemployment specialist, and our consumer price specialist Paul Armknecht.

Job growth continued in December, and unemployment changed very little. Both the overall and the civilian worker jobless rates were 5.3 percent, down about half a point from a year earlier.

After declining early in 1988, the civilian worker unemployment rate stabilized around 5½ percent for much of the year before edging down to 5.3 percent at yearend. One and a half million persons in December had been looking for work for 15 weeks or more; this was nearly 300,000 fewer than a year earlier, accounting for 70 percent of the overall drop in unemployment.

The number of workers employed part time despite their preference for full-time work, although up in December, was about unchanged over the year, at 5.3 million. And the number of discouraged workers, at slightly less than a million in the fourth quarter of 1988, was about the same as a year earlier.

The survey of business payrolls for December reflects a job gain of 280,000, once again paced by increases in the services industry. Factory employment was up for the third month in a row, after some signs of weakness in late summer. And, as we reported throughout 1988, workers in our nation's factories have been putting in unusually long workweeks by historical standards.

Along with the gains in services and manufacturing, employment increases also occurred in both wholesale and retail trade. In addition, the finance industry, which had shown very little growth since the summer of 1987, has shown renewed strength in the past 3 months.

As was often the case during 1988, the estimate of the over-the-month employment change from the household survey differed from that in the business survey. In December, the household survey showed virtually no change in employment, after posting an increase of almost 400,000 in the prior month. In fact, civilian employment in the household survey increased by 2.3 million over the past 12 months, compared with 3.7 million in the business survey. Over the entire period of the current expansion, the difference in growth between the two surveys totaled 2.1 million.

We have now entered the 7th year of sustained improvement in the labor market, continuing the longest peacetime expansion in the post-World War II era. While the precise pace of employment

growth in 1988 is difficult to discern from the two surveys, even the slower growing household survey estimate was still fairly strong.

Three million of the payroll job pickup over the past year was in the service-producing sector. Close to half of that was in the services industry, with health services showing extremely rapid growth. Retail trade added nearly 700,000 jobs, and wholesale trade was strong throughout the year, particularly in its durable goods component.

The goods-producing sector also reflected considerable strength during 1988. The number of construction jobs rose by 300,000 over the year, and manufacturing gained more than 400,000 jobs for the second straight year. Some of the over-the-year improvements in factory employment reflect increased foreign demand for products manufactured in the United States. One export-related industry, machinery, accounted for nearly a third of 1988's total factory employment gain.

The competitive situation for U.S. manufacturers has improved greatly in the last 2 years. Manufacturing labor productivity in this country has grown at an annual rate of nearly 3.5 percent over this period. Because increases in employer costs for the compensation of workers have been fairly restrained, unit labor costs fell by over 1 percent in 1987 and have risen only slightly over most of 1988.

Labor costs represent a significant portion of the total cost of manufactured products, but they need to be adjusted by relative changes in exchange rates to be put into competitive terms. In 1987, the U.S. competitive situation was improved by foreign currency appreciations, with Japanese yen and major European currency changes ranging from about 10 to 20 percent. In 1988, the European currencies were down somewhat relative to the dollar, but the Canadian dollar and the Asian currencies increased still further.

Summarizing the labor market data released this morning, the unemployment rate in December, at 5.3 percent, was at its lowest point in the expansion, and payroll job growth continued to be strong and fairly widespread.

Mr. Chairman, it has been our custom to report to the committee or call the committee's attention to any changes that are important in the data we produce. The remainder of my statement discusses the discontinuance of the monthly hourly earnings index, and its replacement by a new series from our quarterly employment cost index, and also calls your attention to a recently conducted special survey on drug testing in the workplace. We will be issuing data from that survey next Wednesday.

All of us at the Bureau of Labor Statistics look forward to discussing labor market developments with you in the coming months, and we'd be glad to try and answer any questions.

[The prepared statement of Mrs. Norwood, together with the Employment Situation press release, follows:]

FOR RELEASE: 9:30 A.M., E.S.T.
FRIDAY, JANUARY 6, 1989

Advance copies of this statement are made available to the press with the explicit understanding that, prior to 8:30 a.m. Eastern time: (1) Wire services will not move over their wires copy based on information in this statement, (2) electronic media will not feed such information to member stations, and (3) representatives of news organizations will not contact anyone outside the Bureau of Labor Statistics to ask questions or solicit comments about information in this statement.

Prepared
Statement of

Dr. Janet L. Norwood
Commissioner
Bureau of Labor Statistics

before the

Joint Economic Committee
UNITED STATES CONGRESS

January 6, 1989

Mr. Chairman and Members of the Committee:

I am pleased to be here today to offer the Joint Economic Committee a few comments to supplement this morning's Employment Situation news release.

Job growth continued in December, and unemployment changed very little. Both the overall and the civilian worker jobless rates were 5.3 percent, down about half a percentage point from a year earlier.

After declining early in 1988, the civilian worker unemployment rate stabilized around 5-1/2 percent for much

of the year before edging down to 5.3 percent at yearend. One and a half million persons in December had been looking for work for 15 weeks or more; this was nearly 300,000 fewer than a year earlier, accounting for 70 percent of the overall drop in unemployment.

The number of workers employed part time despite their preference for full-time work, although up in December, was about unchanged over the year, at 5.3 million. And the number of discouraged workers -- those who report that they want to work but are not looking for a job because they think none is available for them -- at slightly less than a million in the fourth quarter of 1988, was about the same as a year earlier.

The survey of business payrolls for December reflects a job gain of 280,000, once again paced by increases in the services industry. Factory employment was up for the third month in a row, after some signs of weakness in late summer. And, as we reported throughout 1988, workers in our nation's factories have been putting in unusually long workweeks by historical standards.

Along with the gains in services and manufacturing, employment increases also occurred in both wholesale and retail trade. In addition, the finance industry, which had shown little growth since the summer of 1987, has shown renewed strength in the past 3 months.

As was often the case during 1988, the estimate of the over-the-month employment change from the household survey

differed from that in the business survey. In December, the household survey showed virtually no change in employment, after posting an increase of almost 400,000 in the prior month. In fact, civilian employment in the household survey increased by 2.3 million over the past 12 months, compared with 3.7 million in the business survey. Over the entire period of the current expansion -- since November 1982 -- the difference in growth between the two surveys totals 2.1 million.

We have now entered the seventh year of sustained improvement in the labor market, continuing the longest peacetime expansion in the post-World War II era. While the precise pace of employment growth in 1988 is difficult to discern from the two surveys, even the slower-growing household survey estimate was still fairly strong.

Three million of the payroll job pickup over the past year was in the service-producing sector; close to half of that was in the services industry with health services showing extremely rapid growth. Retail trade added nearly 700,000 jobs, and wholesale trade was strong throughout the year, particularly in its durable goods component.

The goods-producing sector also reflected considerable strength during 1988. The number of construction jobs rose by 300,000 over the year, and manufacturing gained more than 400,000 jobs for the second straight year. Some of the over-the-year improvements in factory employment reflect increased foreign demand for products manufactured in the

United States. One export related industry, machinery, accounted for nearly a third of 1988's total factory employment gain.

The competitive situation for U.S. manufacturers has improved greatly in the last 2 years. Manufacturing labor productivity in this country has grown at an annual rate of nearly 3.5 percent over this period (from 1986 through the most recent available data for the third quarter of 1988). Because increases in employer costs for the compensation of workers have been fairly restrained, unit labor costs fell by over 1 percent in 1987 and have risen only slightly over most of 1988.

Labor costs represent a significant portion of the total cost of manufactured products, but they need to be adjusted by relative changes in exchange rates to be put into competitive terms. In 1987, the U.S. competitive situation was improved by foreign currency appreciations, with Japanese yen and major European currency changes ranging from about 10 to 20 percent. In 1988, the European currencies were down somewhat relative to the dollar, but the Canadian dollar and the Asian currencies increased still further.

Summarizing the labor market data released this morning, the unemployment rate in December, at 5.3 percent, was at its lowest point in the expansion, and payroll job growth continued to be strong and fairly widespread.

BLS Replaces Hourly Earnings Index

I would like to bring to this Committee's attention the fact that the Bureau will discontinue publication of the monthly Hourly Earnings Index (HEI) after this month's release of December 1988 data. It will be replaced with a quarterly series from the Employment Cost Index (ECI). This decision was based on budget constraints, quality issues, and the historical context in which the HEI was developed.

The HEI was first published in the early 1970's -- a period of Federal wage and price controls -- to fill the need for a measure of wage change unaffected by industry employment change. At the same time, Congress appropriated funds to the Bureau to begin the long-term development of the ECI, a more modern and more comprehensive measure.

While we recognize that the HEI has many users, we believe that it is not as good an approximation of wage change as the ECI. During the past few years, for example, the HEI has consistently understated the rate of wage change, as measured by the ECI, even for the restricted group of workers covered by the HEI. Moreover, the change in average hourly earnings, data which BLS will continue to publish, appears to serve as a monthly proxy for the HEI.

As a service to users, the Bureau will begin publishing a new quarterly ECI series with the same industry and employment coverage as the HEI. The new series, slated for introduction in the January 24 ECI news release, has 13 years of historical data to provide an overlap with the HEI.

Special Survey on Employer Drug Testing

I would also like to bring your attention to the fact that on January 11 the Bureau of Labor Statistics will be releasing the results of a special survey of employer anti-drug programs. This survey is the first on this subject to provide comprehensive coverage of the private nonfarm business sector, encompassing all industries and establishment sizes. Data were obtained on the incidence and results of drug testing and on the existence and types of employee assistance programs. These data were collected and processed in a very short time and provide an example of the capability we hope to develop at BLS to provide information quickly on important policy issues.

Mr. Chairman, my colleagues and I look forward to discussing labor market developments with you here in the coming months. We would be glad to try to answer any questions you may have.

Unemployment rates of all civilian workers by alternative seasonal adjustment methods

Month and year	Unadjusted rate	X-11 ARIMA method						X-11 method (official method before 1980)	Range (cols. 2-8)
		Official procedure	Concurrent (as first computed)	Concurrent (revised)	Stable	Total	Residual		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1987									
December....	5.4	5.8	5.8	5.8	5.7	5.8	5.8	5.8	.1
1988									
January.....	6.3	5.8	5.8	5.8	5.8	5.8	5.7	5.8	.1
February....	6.2	5.7	5.7	5.7	5.8	5.7	5.6	5.7	.2
March.....	5.9	5.6	5.6	5.6	5.7	5.6	5.5	5.6	.2
April.....	5.3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-
May.....	5.4	5.6	5.6	5.6	5.6	5.6	5.7	5.6	.1
June.....	5.5	5.4	5.4	5.4	5.3	5.4	5.4	5.3	.1
July.....	5.5	5.4	5.4	5.4	5.4	5.5	5.5	5.4	.1
August.....	5.4	5.6	5.6	5.6	5.5	5.6	5.6	5.6	.1
September...	5.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-
October.....	5.0	5.3	5.3	5.3	5.3	5.3	5.4	5.3	.1
November....	5.2	5.4	5.4	5.4	5.4	5.3	5.4	5.4	.1
December....	5.0	5.3	5.3	5.3	5.3	5.3	5.4	5.4	.1

SOURCE: U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics
January 1989

(1) Unadjusted rate. Unemployment rate for all civilian workers, not seasonally adjusted.

(2) Official procedure (X-11 ARIMA method). The published seasonally adjusted rate for all civilian workers. Each of the 3 major civilian labor force components--agricultural employment, nonagricultural employment and unemployment--for 4 age-sex groups--males and females, ages 16-19 and 20 years and over--are seasonally adjusted independently using data from January 1974 forward. The data series for each of these 12 components are extended by a year at each end of the original series using ARIMA (Auto-Regressive, Integrated, Moving Average) models chosen specifically for each series. Each extended series is then seasonally adjusted with the X-11 portion of the X-11 ARIMA program. The 4 teenage unemployment and nonagricultural employment components are adjusted with the additive adjustment model, while the other components are adjusted with the multiplicative model. The unemployment rate is computed by summing the 4 seasonally adjusted unemployment components and calculating that total as a percent of the civilian labor force total derived by summing all 12 seasonally adjusted components. All the seasonally adjusted series are revised at the end of each year. Extrapolated factors for January-June are computed at the beginning of each year; extrapolated factors for July-December are computed in the middle of the year after the June data become available. Each set of 6-month factors are published in advance, in the January and July issues, respectively, of Employment and Earnings.

(3) Concurrent (as first computed, X-11 ARIMA method). The official procedure for computation of the rate for all civilian workers using the 12 components is followed except that extrapolated factors are not used at all. Each component is seasonally adjusted with the X-11 ARIMA program each month as the most recent data become available. Rates for each month of the current year are shown as first computed; they are revised only once each year, at the end of the year when data for the full year become available. For example, the rate for January 1984 would be based, during 1984, on the adjustment of data from the period January 1974 through January 1984.

(4) Concurrent (revised, X-11 ARIMA method). The procedure used is identical to (3) above, and the rate for the current month (the last month displayed) will always be the same in the two columns. However, all previous months are subject to revision each month based on the seasonal adjustment of all the components with data through the current month.

(5) Stable (X-11 ARIMA method). Each of the 12 civilian labor force components is extended using ARIMA models as in the official procedure and then run through the X-11 part of the program using the stable option. This option assumes that seasonal patterns are basically constant from year-to-year and computes final seasonal factors as unweighted averages of all the seasonal-irregular components for each month across the entire span of the period adjusted. As in the official procedure, factors are extrapolated in 6-month intervals and the series are revised at the end of each year. The procedure for computation of the rate from the seasonally adjusted components is also identical to the official procedure.

(6) Total (X-11 ARIMA method). This is one alternative aggregation procedure, in which total unemployment and civilian labor force levels are extended with ARIMA models and directly adjusted with multiplicative adjustment models in the X-11 part of the program. The rate is computed by taking seasonally adjusted total unemployment as a percent of seasonally adjusted total civilian labor force. Factors are extrapolated in 6-month intervals and the series revised at the end of each year.

(7) Residual (X-11 ARIMA method). This is another alternative aggregation method, in which total civilian employment and civilian labor force levels are extended using ARIMA models and then directly adjusted with multiplicative adjustment models. The seasonally adjusted unemployment level is derived by subtracting seasonally adjusted employment from seasonally adjusted labor force. The rate is then computed by taking the derived unemployment level as a percent of the labor force level. Factors are extrapolated in 6-month intervals and the series revised at the end of each year.

(8) X-11 method (official method before 1980). The method for computation of the official procedure is used except that the series are not extended with ARIMA models and the factors are projected in 12-month intervals. The standard X-11 program is used to perform the seasonal adjustment.

Methods of Adjustment: The X-11 ARIMA method was developed at Statistics Canada by the Seasonal Adjustment and Times Series Staff under the direction of Estela Bee Dagum. The method is described in The X-11 ARIMA Seasonal Adjustment Method, by Estela Bee Dagum, Statistics Canada Catalogue No. 12-564E, February 1980.

The standard X-11 method is described in X-11 Variant of the Census Method II Seasonal Adjustment Program, by Julius Shiskin, Allan Young and John Musgrave (Technical Paper No. 15, Bureau of the Census, 1967).

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Media contact: 523-1913

USDL 89-2

TRANSMISSION OF MATERIAL IN THIS RELEASE IS EMBARGOED UNTIL 8:30 A.M. (EST), FRIDAY, JANUARY 6, 1989

THE EMPLOYMENT SITUATION: DECEMBER 1988

The number of nonfarm payroll jobs continued to increase in December and unemployment was about unchanged, the Bureau of Labor Statistics of the U.S. Department of Labor reported today. Both the overall and the civilian worker jobless rates were 5.3 percent in December.

Nonagricultural payroll employment, as measured by the monthly survey of business establishments, rose by 280,000 in December to 107.7 million, seasonally adjusted. Total civilian employment, as measured by the monthly survey of households, was about unchanged at 116.0 million. Both series had shown increases of about 400,000 in the prior month.

Unemployment (Household Survey Data)

The number of unemployed persons (6.6 million) and the civilian worker unemployment rate (5.3 percent) were about unchanged in December, after seasonal adjustment. Although essentially unchanged over the month, both trended downward during 1988. Most of the decline occurred early in the year, but there was also a slight improvement in the final quarter. (See tables A and A-2.)

Jobless rates among the major worker groups--adult men (4.7 percent), adult women (4.7 percent), teenagers (14.8 percent), whites (4.6 percent), blacks (11.6 percent), and Hispanics (7.6 percent)--also showed little or no change over the month. Nearly all exhibited some modest improvement over the past year, however. (See tables A-2 and A-3.)

Both the mean and median duration of unemployment were about unchanged in December. Most of the decline of nearly 400,000 in unemployment over the past year occurred among persons who were jobless for 15 weeks or longer. (See table A-7.)

This release incorporates annual revisions in seasonally adjusted unemployment and other labor force series derived from the household survey. Information on the revisions appears on page 5.

Civilian Employment and the Labor Force (Household Survey Data)

Total civilian employment, at 116.0 million, was about unchanged over the month, after seasonal adjustment. The proportion of the civilian population with jobs (the employment-population ratio) was 62.6 percent in December, sustaining the record-high level set in the prior month. Over the past year, civilian employment increased by 2.3 million, with about two-thirds of the gain accounted for by adult women and one-third by adult men. (See table A-2.)

Table A. Major indicators of labor market activity, seasonally adjusted

Category	Quarterly averages		Monthly data			Nov.-Dec. change
	1988		1988			
	III	IV	Oct.	Nov.	Dec.	
HOUSEHOLD DATA						
	Thousands of persons					
Labor force 1/.....	123,570	124,084	123,778	124,215	124,259	44
Total employment 1/..	116,892	117,539	117,260	117,652	117,705	53
Civilian labor force...	121,881	122,388	122,091	122,510	122,563	53
Civilian employment..	115,202	115,843	115,573	115,947	116,009	62
Unemployment.....	6,678	6,545	6,518	6,563	6,554	-9
Not in labor force.....	62,959	62,865	63,023	62,734	62,839	105
Discouraged workers..	941	951	N.A.	N.A.	N.A.	N.A.
	Percent of labor force					
Unemployment rates:						
All workers 1/.....	5.4	5.3	5.3	5.3	5.3	0
All civilian workers.	5.5	5.3	5.3	5.4	5.3	-0.1
Adult men.....	4.7	4.7	4.6	4.8	4.7	-.1
Adult women.....	4.9	4.7	4.7	4.7	4.7	0
Teenagers.....	15.3	14.6	15.0	14.1	14.8	.7
White.....	4.8	4.6	4.6	4.6	4.6	0
Black.....	11.2	11.3	11.2	11.2	11.6	.4
Hispanic origin....	8.0	7.8	7.8	8.0	7.6	-.4
ESTABLISHMENT DATA						
	Thousands of jobs					
Nonfarm employment.....	106,478	p107,335	106,973	p107,377	p107,656	p279
Goods-producing.....	25,650	p25,827	25,743	p25,844	p25,893	p49
Service-producing....	80,828	p81,509	81,230	p81,533	p81,763	p230
	Hours of work					
Average weekly hours:						
Total private.....	34.7	p34.8	34.9	p34.8	p34.7	p-0.1
Manufacturing.....	41.1	p41.1	41.2	p41.2	p41.0	p-.2
Overtime.....	3.9	p3.9	4.0	p3.9	p3.9	p0

1/ Includes the resident Armed Forces. N.A.-not available.
p-preliminary.
NOTE: Household data have been revised based on the experience through December 1988.

The civilian labor force was 122.6 million in December, essentially the same as in November, and the labor force participation rate held steady at 66.1 percent. During the course of 1988, the labor force expanded by 1.9 million. (See table A-2.)

Discouraged Workers (Household Survey Data)

At 950,000 in the fourth quarter, the number of discouraged workers--persons who report that they want to work but are not looking for jobs because they believe they cannot find any--was the same as in the third quarter and has changed very little since early 1987. Just under two-thirds of the discouraged total cited job-market conditions as their reasons for not looking, while the remainder cited personal factors (such as age or lack of education). Black workers continued to make up a disproportionately large share of all discouraged workers. (See table A-14.)

Industry Payroll Employment (Establishment Survey Data)

Total nonagricultural employment rose by 280,000 in December, after seasonal adjustment, to a level of 107.7 million. Most of the employment growth occurred in the service-producing industries, but there was also a moderate gain in manufacturing. (See table B-1.)

Employment in the services sector rose by 230,000, with the growth concentrated in trade and the services industry. Retail trade added 50,000 jobs, with nearly all of the increase in general merchandise stores. Wholesale trade followed its year-long pattern of consistent job growth, adding 25,000 workers to its payrolls. In the services industry, employment rose by 125,000, with business services increasing by 45,000 and health services by 60,000. Over the year, health services employment rose by nearly 500,000.

In the goods-producing sector, manufacturing added 35,000 jobs, following much stronger increases in the previous 2 months. The manufacturers of durable goods accounted for nearly all of December's job gains, as most of the component industries showed an increase. During the course of 1988, manufacturing industries added 410,000 jobs, with the machinery industry alone accounting for about 30 percent of this increase. After a year of strong growth, construction employment showed little change in December. Mining employment, which was fairly weak in the last half of the year, also changed little in December.

Weekly Hours (Establishment Survey Data)

The average workweek for production or nonsupervisory workers on private nonagricultural payrolls declined by 0.1 hour in December, seasonally adjusted, to 34.7 hours. In manufacturing, the workweek fell by 0.2 hour to a still high 41.0 hours, while overtime work was unchanged at 3.9 hours. (See table B-2.)

The index of aggregate weekly hours of production or nonsupervisory workers on private nonagricultural payrolls, at 127.1 (1977=100), was little changed in December, as was the manufacturing index at 97.0. (See table B-5.)

Hourly and Weekly Earnings (Establishment Survey Data)

Average hourly earnings of private production or nonsupervisory workers edged up by 0.2 percent in December on a seasonally adjusted basis. Average weekly earnings were virtually unchanged. Prior to seasonal adjustment, average hourly earnings remained at $9.45, and average weekly earnings rose by $1.89 to $329.81. (See table B-3.)

The Hourly Earnings Index (Establishment Survey Data)

The Hourly Earnings Index (HEI) was 181.7 (1977=100) in December, seasonally adjusted, an increase of 0.2 percent from November. For the 12 months ended in December, the increase was 3.4 percent. In dollars of constant purchasing power, the HEI decreased 0.9 percent during the 12-month period ending in November. The HEI is computed so as to exclude the effects of two types of changes unrelated to underlying wage rate movements--fluctuations in manufacturing overtime and interindustry employment shifts. (Beginning with data for January 1989, the Hourly Earnings Index will no longer be published in this release.) (See table B-4.)

The Employment Situation for January 1989 will be released on Friday, February 3, at 8:30 A.M. (EST).

Revision of Seasonally Adjusted Household Survey Data

At the end of each calendar year, the BLS routinely revises the seasonally adjusted labor force series derived from the Current Population Survey (household survey) to incorporate the experience of that year. As a result of the recalculation of the seasonal adjustment factors, seasonally adjusted data for the most recent 5 years are subject to revision. (Establishment data are similarly revised at about mid-year, concurrently with the introduction of annual benchmark adjustments.)

Revisions were minimal for the aggregate unemployment rates published during 1988. For example, the civilian worker rate was revised by a tenth of a percentage point in April and June. The 1988 annual averages, 5.4 percent for all workers and 5.5 percent for civilian workers, are, of course, not affected by seasonal adjustment revisions. Table B presents revised seasonally adjusted data for major civilian labor force series for December 1987 through December 1988.

The January 1989 issue of Employment and Earnings will contain the new seasonal adjustment factors that will be used to calculate the civilian labor force and other major series for January-June of 1989. The publication will also contain a description of the current seasonal adjustment methodology and revised data for the most recent 13 months or calendar quarters for all regularly published tables containing seasonally adjusted household survey data. Revised monthly data for the 1984-88 revision period for 430 labor force series will be published in the February 1989 issue. Special tabulations of historical seasonally adjusted data (monthly and quarterly) may be purchased from the Bureau. (Contact Gloria P. Green on Area Code 202--523-1959.)

HOUSEHOLD DATA

Table B. Employment status of the civilian noninstitutional population by sex and age, seasonally adjusted

(Numbers in thousands)

Employment status, sex, and age	1987	1988											
	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
TOTAL													
Civilian noninstitutional population	183,620	183,822	183,969	184,111	184,232	184,374	184,562	184,729	184,830	184,962	185,114	185,244	185,402
Civilian labor force	120,701	121,035	121,165	120,936	121,328	121,203	121,524	121,656	122,000	121,984	122,091	122,510	122,563
Percent of population	65.7	65.8	65.9	65.7	65.9	65.7	65.8	65.9	66.0	66.0	66.0	66.1	66.1
Employed	113,740	114,055	114,273	114,129	114,660	114,403	115,001	115,034	115,203	115,370	115,573	115,947	116,009
Employment-population ratio	61.9	62.0	62.1	62.0	62.2	62.0	62.3	62.3	62.3	62.4	62.4	62.6	62.6
Unemployed	6,961	6,980	6,892	6,807	6,668	6,800	6,523	6,624	6,797	6,614	6,518	6,563	6,554
Unemployment rate	5.8	5.8	5.7	5.6	5.5	5.6	5.4	5.4	5.6	5.4	5.3	5.4	5.3
Men, 20 years and over													
Civilian noninstitutional population	80,002	80,120	80,203	80,260	80,326	80,402	80,526	80,608	80,669	80,751	80,851	80,924	81,001
Civilian labor force	62,261	62,421	62,614	62,532	62,774	62,721	62,869	62,729	62,916	62,884	62,915	62,995	63,002
Percent of population	77.8	77.9	78.1	77.9	78.1	78.0	77.8	77.8	78.0	77.9	77.8	77.8	77.8
Employed	59,220	59,315	59,561	59,466	59,833	59,656	59,780	59,897	59,839	59,979	60,004	59,999	60,049
Employment-population ratio	74.0	74.0	74.3	74.1	74.5	74.2	74.2	74.3	74.2	74.3	74.2	74.1	74.1
Agriculture	2,290	2,302	2,279	2,258	2,259	2,238	2,231	2,252	2,273	2,249	2,315	2,313	2,292
Nonagricultural industries	56,930	57,013	57,282	57,210	57,574	57,418	57,549	57,645	57,566	57,730	57,689	57,686	57,757
Unemployed	3,061	3,106	3,053	3,064	2,941	3,065	2,889	2,832	3,077	2,905	2,911	2,996	2,953
Unemployment rate	4.9	5.0	4.9	4.9	4.7	4.9	4.6	4.5	4.9	4.6	4.6	4.8	4.7
Not in labor force	17,721	17,699	17,589	17,728	17,552	17,681	17,657	17,879	17,753	17,867	17,936	17,929	17,999
Women, 20 years and over													
Civilian noninstitutional population	89,010	89,110	89,178	89,261	89,307	89,382	89,502	89,586	89,670	89,735	89,807	89,887	89,954
Civilian labor force	50,327	50,462	50,530	50,510	50,591	50,532	50,690	50,807	50,959	50,991	51,201	51,558	51,587
Percent of population	56.5	56.6	56.7	56.6	56.6	56.5	56.6	56.7	56.8	56.8	57.0	57.4	57.3
Employed	47,722	47,894	47,934	48,060	48,120	48,040	48,205	48,242	48,492	48,535	48,788	49,113	49,165
Employment-population ratio	53.6	53.7	53.8	53.8	53.9	53.7	53.9	53.8	54.1	54.1	54.3	54.6	54.7
Agriculture	640	639	638	641	653	604	626	549	609	638	640	640	648
Nonagricultural industries	47,082	47,255	47,296	47,419	47,467	47,436	47,579	47,693	47,883	47,897	48,148	48,473	48,519
Unemployed	2,605	2,568	2,596	2,450	2,471	2,492	2,485	2,565	2,467	2,456	2,413	2,445	2,422
Unemployment rate	5.2	5.1	5.1	4.9	4.9	4.9	4.9	5.0	4.8	4.8	4.7	4.7	4.7
Not in labor force	38,683	38,648	38,648	38,751	38,716	38,850	38,812	38,781	38,711	38,744	38,606	38,329	38,367
Both sexes, 16 to 19 years													
Civilian noninstitutional population	14,609	14,592	14,588	14,591	14,598	14,590	14,534	14,533	14,491	14,477	14,456	14,433	14,447
Civilian labor force	8,093	8,151	8,021	7,894	7,963	7,950	8,165	8,122	8,125	8,109	7,975	7,957	7,974
Percent of population	55.4	55.9	55.0	54.1	54.5	54.5	56.2	55.9	56.1	56.0	55.2	55.1	55.2
Employed	6,738	6,846	6,778	6,601	6,707	6,707	7,016	6,895	6,872	6,856	6,781	6,835	6,792
Employment-population ratio	46.5	46.9	46.5	45.2	45.9	46.0	48.3	47.4	47.4	47.4	46.9	47.4	47.0
Agriculture	282	315	283	282	275	268	264	259	260	289	283	285	255
Nonagricultural industries	6,516	6,531	6,495	6,319	6,432	6,439	6,752	6,636	6,612	6,567	6,498	6,550	6,540
Unemployed	1,295	1,306	1,243	1,293	1,256	1,243	1,149	1,227	1,253	1,253	1,194	1,122	1,179
Unemployment rate	16.0	16.0	15.5	16.4	15.8	15.6	14.1	15.1	15.4	15.5	15.0	14.1	14.8
Not in labor force	6,516	6,440	6,567	6,697	6,635	6,640	6,369	6,411	6,366	6,368	6,481	6,476	6,473

The population figures are not adjusted for seasonal variation.

Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Data have been revised based on the experience through December 1988.

Explanatory Note

This news release presents statistics from two major surveys, the Current Population Survey (household survey) and the Current Employment Statistics Survey (establishment survey). The household survey provides the information on the labor force, total employment, and unemployment that appears in the A tables, marked HOUSEHOLD DATA. It is a sample survey of about 55,800 households that is conducted by the Bureau of the Census with most of the findings analyzed and published by the Bureau of Labor Statistics (BLS).

The establishment survey provides the information on the employment, hours, and earnings of workers on nonagricultural payrolls that appears in the B tables, marked ESTABLISHMENT DATA. This information is collected from payroll records by BLS in cooperation with State agencies. The sample includes over 300,000 establishments employing over 38 million people.

For both surveys, the data for a given month are actually collected for and relate to a particular week. In the household survey, unless otherwise indicated, it is the calendar week that contains the 12th day of the month, which is called the survey week. In the establishment survey, the reference week is the pay period including the 12th, which may or may not correspond directly to the calendar week.

The data in this release are affected by a number of technical factors, including definitions, survey differences, seasonal adjustments, and the inevitable variance in results between a survey of a sample and a census of the entire population. Each of these factors is explained below.

Coverage, definitions, and differences between surveys

The sample households in the household survey are selected so as to reflect the entire civilian noninstitutional population 16 years of age and older. Each person in a household is classified as employed, unemployed, or not in the labor force. Those who hold more than one job are classified according to the job at which they worked the most hours.

People are classified as *employed* if they did any work at all as paid civilians; worked in their own business or profession or on their own farm; or worked 15 hours or more in an enterprise operated by a member of their family, whether they were paid or not. People are also counted as employed if they were on unpaid leave because of illness, bad weather, disputes between labor and management, or personal reasons. Members of the Armed Forces stationed in the United States are also included in the employed total.

People are classified as *unemployed*, regardless of their eligibility for unemployment benefits or public assistance, if they meet all of the following criteria: They had no employment during the survey week; they were available for work at that time; and they made specific efforts to find employment sometime during the prior 4 weeks. Persons laid off from their former jobs and awaiting recall and those expecting to report to a job within 30 days need not be looking for work to be counted as unemployed.

The *labor force* equals the sum of the number employed and the number unemployed. The *unemployment rate* is the percentage of unemployed people in the labor force (civilian plus the resident Armed Forces). Table A-5 presents a special grouping of seven measures of unemployment based on varying definitions of unemployment and the labor force. The definitions are provided in the table. The most restrictive definition yields U-1 and the most comprehensive yields U-7. The overall unemployment rate is U-5a, while U-5b represents the same measure with a civilian labor force base.

Unlike the household survey, the establishment survey only counts wage and salary employees whose names appear on the payroll records of nonagricultural firms. As a result, there are many differences between the two surveys, among which are the following:

— The household survey, although based on a smaller sample, reflects a larger segment of the population; the establishment survey excludes agriculture, the self-employed, unpaid family workers, private household workers, and members of the resident Armed Forces;

— The household survey includes people on unpaid leave among the employed; the establishment survey does not;

— The household survey is limited to those 16 years of age and older; the establishment survey is not limited by age;

— The household survey has no duplication of individuals, because each individual is counted only once; in the establishment survey, employees working at more than one job or otherwise appearing on more than one payroll would be counted separately for each appearance.

Other differences between the two surveys are described in "Comparing Employment Estimates from Household and Payroll Surveys," which may be obtained from the BLS upon request.

Seasonal adjustment

Over the course of a year, the size of the Nation's labor force and the levels of employment and unemployment undergo sharp fluctuations due to such seasonal events as changes in weather, reduced or expanded production, harvests, major holidays, and the opening and closing of schools. For example, the labor force increases by a large number each June, when schools close and many young people enter the job market. The effect of such seasonal variation can be very large; over the course of a year, for example, seasonality may account for as much as 95 percent of the month-to-month changes in unemployment.

Because these seasonal events follow a more or less regular pattern each year, their influence on statistical trends can be eliminated by adjusting the statistics from month to month. These adjustments make nonseasonal developments, such as declines in economic activity or increases in the participation of women in the labor force, easier to spot. To return to the school's-out example, the large number of people entering the labor force each June is likely to obscure any other changes that have taken place since May, making it difficult to determine if the level of economic activity has risen or declined. However, because the effect of students finishing school in previous years is known, the statistics for the current year can be adjusted to allow for a comparable change. Insofar as the seasonal adjustment is made correctly, the adjusted figure provides a more useful tool with which to analyze changes in economic activity.

Measures of labor force, employment, and unemployment contain components such as age and sex. Statistics for all employees, production workers, average weekly hours, and average hourly earnings include components based on the employer's industry. All these statistics can be seasonally adjusted either by adjusting the total or by adjusting each of the components and combining them. The second procedure usually yields more accurate information and is therefore followed by BLS. For example, the seasonally adjusted figure for the labor force is the sum of eight seasonally adjusted civilian employment components, plus the resident Armed Forces total (not adjusted for seasonality), and four seasonally adjusted unemployment components; the total for unemployment is the sum of the four unemployment components; and the overall unemployment rate is derived by dividing the resulting estimate of total unemployment by the estimate of the labor force.

The numerical factors used to make the seasonal adjustments are recalculated regularly. For the household survey, the factors are calculated for the January-June period and again for the July-December period. The January revision is applied to data that have been published over the previous 5 years. For the establishment survey, updated factors for seasonal adjustment are calculated only once a year, along with the introduction of new benchmarks which are discussed at the end of the next section.

Sampling variability

Statistics based on the household and establishment surveys are subject to sampling error, that is, the estimate of the number of people employed and the other estimates drawn from these surveys probably differ from the figures that would be obtained from a complete census, even if the same questionnaires and procedures were used. In the household survey, the amount of the differences can be expressed in terms of standard errors. The numerical value of a standard error depends upon the size of the sample, the results of the survey, and other factors. However, the numerical value is always such that the chances are approximately 68 out of 100 that an estimate based on the sample will differ by no more than the standard error from the results of a complete census. The chances are approximately 90 out of 100 that an estimate based on the sample will differ by no more than 1.6 times the standard error from the results of a complete census. At approximately the 90-percent level of confidence—the confidence limits used by BLS in its analyses—the error for the monthly change in total employment is on the order of plus or minus 358,000; for total unemployment it is 224,000; and, for the overall unemployment rate, it is 0.19 percentage point. These figures do not mean that the sample results are off by these magnitudes but, rather, that the chances are approximately 90 out of 100 that the "true" level or rate would not be expected to differ from the estimates by more than these amounts.

Sampling errors for monthly surveys are reduced when the data are cumulated for several months, such as quarterly or annually. Also, as a general rule, the smaller the estimate, the larger the sampling error. Therefore, relatively speaking, the estimate of the size of the labor force is subject to less error than is the estimate of the number unemployed. And, among the unemployed, the sampling error for the jobless rate of adult men, for example, is much smaller than is the error for the jobless rate of teenagers. Specifically, the error on monthly change in the jobless rate for men is .25 percentage point; for teenagers, it is 1.29 percentage points.

In the establishment survey, estimates for the 2 most current months are based on incomplete returns; for this reason, these estimates are labeled preliminary in the tables. When all the returns in the sample have been received, the estimates are revised. In other words, data for the month of September are published in preliminary form in October and November and in final form in December. To remove errors that build up over time, a comprehensive count of the employed is conducted each year. The results of this survey are used to establish new benchmarks—comprehensive counts of employment—against which month-to-month changes can be measured. The new benchmarks also incorporate changes in the classification of industries and allow for the formation of new establishments.

Additional statistics and other information

In order to provide a broad view of the Nation's employment situation, BLS regularly publishes a wide variety of data in this news release. More comprehensive statistics are contained in *Employment and Earnings*, published each month by BLS. It is available for $8.50 per issue or $25.00 per year from the U.S. Government Printing Office, Washington, DC 20204. A check or money order made out to the Superintendent of Documents must accompany all orders.

Employment and Earnings also provides approximations of the standard errors for the household survey data published in this release. For unemployment and other labor force categories, the standard errors appear in tables B through J of its "Explanatory Notes." Measures of the reliability of the data drawn from the establishment survey and the actual amounts of revision due to benchmark adjustments are provided in tables M, O, P, and Q of that publication.

HOUSEHOLD DATA

Table A-1. Employment status of the population, including Armed Forces in the United States, by sex

(Numbers in thousands)

Employment status and sex	Not seasonally adjusted			Seasonally adjusted[1]					
	Dec. 1997	Nov. 1998	Dec. 1998	Dec. 1997	Aug. 1998	Sept. 1998	Oct. 1998	Nov. 1998	Dec. 1998
TOTAL									
Noninstitutional population[2]	186,370	186,949	187,098	186,370	186,522	186,698	186,901	186,949	187,098
Labor force[3]	121,958	124,344	123,819	122,451	123,092	123,698	123,778	124,215	124,259
Participation rate[4]	65.6	66.6	66.2	66.1	66.3	66.3	66.3	66.4	66.4
Total employed[5]	115,429	116,019	117,074	115,480	116,886	117,074	117,260	117,652	117,705
Employment-population ratio[4]	62.3	63.1	62.9	62.3	62.7	62.7	62.8	62.9	62.9
Resident Armed Forces	1,730	1,706	1,698	1,730	1,692	1,704	1,697	1,705	1,698
Civilian employed	113,679	116,314	115,376	113,740	115,203	115,370	115,573	115,947	116,009
Agriculture	2,874	3,111	2,870	3,212	3,142	3,176	3,238	3,238	3,193
Nonagricultural industries	110,866	113,203	113,106	110,528	112,061	112,194	112,335	112,709	112,816
Unemployed	6,528	6,325	6,142	6,961	6,797	6,814	6,518	6,563	6,554
Unemployment rate[6]	5.4	5.1	5.0	5.7	5.5	5.3	5.3	5.3	5.3
Not in labor force	63,414	62,606	63,282	62,918	62,930	62,979	63,023	62,734	62,839
Men, 16 years and over									
Noninstitutional population[2]	88,924	89,718	89,792	88,924	89,504	89,577	89,637	89,718	89,792
Labor force[3]	67,566	68,448	68,161	68,058	68,085	68,504	68,569	68,686	68,638
Participation rate[4]	76.0	76.3	75.9	76.5	76.7	76.6	76.5	76.6	76.4
Total employed[5]	63,864	64,964	64,845	64,281	64,931	65,015	64,976	65,074	65,055
Employment-population ratio[4]	71.8	72.4	72.0	72.3	72.5	72.6	72.5	72.5	72.5
Resident Armed Forces	1,589	1,542	1,534	1,589	1,529	1,540	1,526	1,542	1,534
Civilian employed	62,265	63,442	63,111	62,692	63,402	63,475	63,450	63,532	63,521
Unemployed	3,711	3,484	3,317	3,777	3,754	3,589	3,593	3,612	3,583
Unemployment rate[6]	5.5	5.1	5.2	5.5	5.5	5.2	5.2	5.3	5.2
Women, 16 years and over									
Noninstitutional population[2]	98,446	97,234	97,306	98,446	97,018	97,099	97,164	97,234	97,306
Labor force[3]	54,391	55,896	55,658	54,393	55,007	55,084	55,209	55,529	55,621
Participation rate[4]	55.4	57.5	57.2	55.4	56.7	56.7	56.8	57.1	57.2
Total employed[5]	51,575	53,056	53,029	51,209	51,964	52,059	52,284	52,578	52,650
Employment-population ratio[4]	53.5	54.6	54.6	53.1	53.6	53.6	53.8	54.1	54.1
Resident Armed Forces	161	163	162	161	163	164	161	163	162
Civilian employed	51,414	52,872	52,867	51,048	51,801	51,896	52,123	52,415	52,488
Unemployed	2,816	2,840	2,629	3,184	3,043	3,025	2,925	2,951	2,971
Unemployment rate[6]	5.2	5.1	4.7	5.9	5.5	5.5	5.3	5.3	5.3

[1] The population and Armed Forces figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employment as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

NOTE: Seasonally adjusted data have been revised based on the experience through December 1998.

HOUSEHOLD DATA

Table A-2. Employment status of the civilian population by sex and age

(Numbers in thousands)

Employment status, sex, and age	Not seasonally adjusted			Seasonally adjusted					
	Dec. 1987	Nov. 1988	Dec. 1988	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988
TOTAL									
Civilian noninstitutional population	183,620	185,244	185,402	183,620	184,830	184,962	185,114	185,244	185,402
Civilian labor force	120,206	122,639	122,120	120,701	122,000	121,964	122,091	122,510	122,563
Participation rate	65.5	66.2	65.9	65.7	66.0	66.0	66.0	66.1	66.1
Employed	113,679	116,314	115,978	113,740	115,203	115,370	115,573	115,947	116,009
Employment-population ratio[2]	61.9	62.8	62.6	61.9	62.3	62.4	62.4	62.6	62.6
Unemployed	6,526	6,325	6,142	6,961	6,797	6,614	6,518	6,563	6,554
Unemployment rate	5.4	5.2	5.0	5.8	5.6	5.4	5.3	5.4	5.3
Men, 20 years and over									
Civilian noninstitutional population	80,002	80,924	81,001	80,002	80,689	80,751	80,861	80,924	81,001
Civilian labor force	62,075	62,999	62,792	62,281	62,916	62,884	62,915	62,995	63,002
Participation rate	77.6	77.9	77.5	77.8	78.0	77.9	77.8	77.9	77.8
Employed	59,035	60,101	59,958	59,220	59,839	59,979	60,004	59,999	60,049
Employment-population ratio[2]	73.8	74.3	73.9	74.0	74.2	74.3	74.2	74.1	74.1
Agriculture	2,121	2,268	2,120	2,290	2,273	2,249	2,315	2,313	2,282
Nonagricultural industries	56,914	57,833	57,738	56,930	57,566	57,730	57,689	57,686	57,757
Unemployed	3,040	2,895	2,834	3,061	3,077	2,905	2,911	2,996	2,953
Unemployment rate	4.9	4.6	4.7	4.9	4.9	4.6	4.6	4.8	4.7
Women, 20 years and over									
Civilian noninstitutional population	89,010	89,887	89,954	89,010	89,670	89,735	89,807	89,887	89,954
Civilian labor force	50,492	52,100	51,786	50,327	50,969	50,991	51,201	51,558	51,587
Participation rate	56.7	58.0	57.6	56.5	56.8	56.8	57.0	57.4	57.3
Employed	48,148	49,721	49,801	47,722	48,462	48,535	48,788	49,113	49,165
Employment-population ratio[2]	54.1	55.3	55.1	53.6	54.1	54.1	54.3	54.6	54.7
Agriculture	578	642	589	640	609	638	640	640	646
Nonagricultural industries	47,568	49,078	49,012	47,082	47,853	47,897	48,148	48,473	48,519
Unemployed	2,344	2,379	2,186	2,605	2,467	2,456	2,413	2,445	2,422
Unemployment rate	4.6	4.6	4.2	5.2	4.8	4.8	4.7	4.7	4.7
Both sexes, 16 to 19 years									
Civilian noninstitutional population	14,809	14,433	14,447	14,809	14,491	14,477	14,456	14,433	14,447
Civilian labor force	7,639	7,542	7,542	8,093	8,125	8,109	7,975	7,957	7,974
Participation rate	52.3	52.3	52.2	56.4	56.1	56.0	55.2	55.1	55.2
Employed	6,496	6,462	6,519	6,798	6,872	6,858	6,781	6,835	6,795
Employment-population ratio[2]	44.5	45.0	45.1	46.5	47.4	47.4	46.9	47.4	47.0
Agriculture	175	200	161	282	280	289	283	285	255
Nonagricultural industries	6,323	6,282	6,358	6,516	6,612	6,567	6,498	6,550	6,540
Unemployed	1,141	1,080	1,023	1,296	1,253	1,253	1,194	1,122	1,179
Unemployment rate	14.9	13.9	13.6	16.0	15.4	15.5	15.0	14.1	14.8

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Seasonally adjusted data have been revised based on the experience through December 1988.

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Table A-3. Employment status of the civilian population by race, sex, age, and Hispanic origin

(Numbers in thousands)

Employment status, race, sex, age, and Hispanic origin	Not seasonally adjusted			Seasonally adjusted					
	Dec. 1987	Nov. 1988	Dec. 1988	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988
WHITE									
Civilian noninstitutional population	157,552	158,803	158,705	157,552	158,340	158,422	158,524	158,803	158,705
Civilian labor force	103,443	105,508	104,972	103,907	105,013	105,036	105,051	105,395	105,411
Participation rate	65.7	66.5	66.1	66.0	66.3	66.3	66.3	66.5	66.4
Employed	98,639	100,818	100,423	98,787	99,907	100,058	100,199	100,543	100,567
Employment-population ratio[1]	62.6	63.6	63.3	62.7	63.1	63.2	63.2	63.4	63.4
Unemployed	4,804	4,691	4,548	5,120	5,106	4,978	4,852	4,852	4,844
Unemployment rate	4.6	4.4	4.3	4.9	4.9	4.7	4.6	4.6	4.6
Men, 20 years and over									
Civilian labor force	54,197	54,921	54,731	54,389	54,864	54,836	54,861	54,922	54,896
Participation rate	78.0	78.3	77.9	78.2	78.4	78.3	78.3	78.3	78.2
Employed	51,873	52,700	52,466	52,046	52,487	52,579	52,612	52,624	52,636
Employment-population ratio[1]	74.6	75.1	74.7	74.9	75.0	75.1	75.1	75.0	75.0
Unemployed	2,323	2,221	2,264	2,323	2,377	2,260	2,249	2,298	2,262
Unemployment rate	4.3	4.0	4.1	4.3	4.3	4.1	4.1	4.2	4.1
Women, 20 years and over									
Civilian labor force	42,859	44,071	43,748	42,572	43,149	43,191	43,298	43,625	43,644
Participation rate	56.0	57.4	57.0	55.9	56.4	56.4	56.5	56.9	56.9
Employed	41,004	42,378	42,218	40,713	41,378	41,413	41,583	41,899	41,930
Employment-population ratio[1]	53.8	55.2	55.0	53.5	54.1	54.1	54.2	54.6	54.6
Unemployed	1,855	1,693	1,530	1,859	1,771	1,778	1,715	1,736	1,714
Unemployment rate	3.9	3.8	3.5	4.4	4.1	4.1	4.0	4.0	3.9
Both sexes, 16 to 19 years									
Civilian labor force	8,587	8,518	8,494	8,986	7,000	7,006	8,892	8,848	8,868
Participation rate	56.3	55.5	55.4	58.5	59.2	59.4	58.5	58.3	58.6
Employed	5,781	5,741	5,736	6,028	6,042	6,066	6,004	6,030	6,001
Employment-population ratio[1]	48.4	48.9	49.0	50.6	51.1	51.4	51.0	51.3	51.2
Unemployed	826	777	755	938	958	940	888	818	868
Unemployment rate	12.5	11.9	11.8	13.5	13.7	13.4	12.9	11.9	12.8
Men	15.0	12.3	13.4	14.8	13.9	14.5	14.4	12.6	13.4
Women	10.0	11.5	9.8	12.0	13.5	12.3	11.3	11.3	11.8
BLACK									
Civilian noninstitutional population	20,508	20,811	20,842	20,508	20,736	20,782	20,786	20,811	20,842
Civilian labor force	13,127	13,360	13,387	13,181	13,236	13,201	13,290	13,330	13,405
Participation rate	64.0	64.1	64.1	64.3	63.8	63.6	63.9	64.1	64.3
Employed	11,631	11,923	11,938	11,580	11,733	11,758	11,807	11,831	11,856
Employment-population ratio[1]	56.7	57.3	57.3	56.4	56.6	56.6	56.8	56.8	56.9
Unemployed	1,496	1,427	1,428	1,621	1,503	1,443	1,483	1,498	1,549
Unemployment rate	11.4	10.7	10.7	12.3	11.4	10.9	11.2	11.2	11.6
Men, 20 years and over									
Civilian labor force	6,026	6,130	6,146	6,057	6,131	6,117	6,157	6,146	6,179
Participation rate	74.1	74.2	74.2	74.5	74.5	74.2	74.6	74.3	74.6
Employed	5,430	5,567	5,568	5,430	5,539	5,583	5,596	5,545	5,581
Employment-population ratio[1]	66.8	67.2	67.1	66.8	67.3	67.5	67.4	67.1	67.1
Unemployed	595	574	586	627	592	554	561	601	618
Unemployment rate	9.9	9.4	9.5	10.4	9.7	9.1	9.6	9.8	10.0
Women, 20 years and over									
Civilian labor force	6,241	6,370	6,375	6,193	6,188	6,174	6,234	6,290	6,316
Participation rate	61.2	61.5	61.4	60.7	60.0	59.8	60.2	60.8	60.9
Employed	5,628	5,788	5,773	5,515	5,571	5,575	5,620	5,683	5,654
Employment-population ratio[1]	55.1	55.7	55.6	54.0	54.0	54.0	54.3	54.8	54.5
Unemployed	615	601	602	678	617	599	614	617	662
Unemployment rate	9.9	9.4	9.4	10.9	10.0	9.7	9.8	9.8	10.5
Both sexes, 16 to 19 years									
Civilian labor force	980	849	849	931	917	910	899	904	910
Participation rate	39.6	38.9	38.8	42.9	42.0	41.7	41.2	41.5	41.7
Employed	575	597	606	615	623	620	621	623	641
Employment-population ratio[1]	26.5	27.4	27.8	28.4	28.5	28.4	28.5	28.6	29.4
Unemployed	285	252	240	316	294	290	278	281	269
Unemployment rate	33.2	29.7	28.3	33.9	32.1	31.9	30.9	31.1	29.6
Men	35.1	31.5	30.0	34.3	32.1	31.9	32.8	32.1	29.8
Women	31.2	27.5	26.6	33.6	32.0	31.9	28.6	29.9	29.3

See footnotes at end of table.

Table A-3. Employment status of the civilian population by race, sex, age, and Hispanic origin—Continued

(Numbers in thousands)

Employment status, race, sex, age, and Hispanic origin	Not seasonally adjusted			Seasonally adjusted					
	Dec. 1997	Nov. 1998	Dec. 1998	Dec. 1997	Aug. 1998	Sept. 1998	Oct. 1998	Nov. 1998	Dec. 1998
HISPANIC ORIGIN									
Civilian noninstitutional population	13,092	13,485	13,559	13,092	13,361	13,419	13,486	13,485	13,533
Civilian labor force	8,996	9,201	9,063	8,770	9,062	9,081	9,075	9,140	9,133
Participation rate	68.4	68.2	66.8	67.0	67.8	67.5	67.4	67.8	67.5
Employed	8,092	8,462	8,402	8,045	8,314	8,378	8,368	8,419	8,441
Employment-population ratio[1]	61.2	62.7	62.1	61.5	61.4	62.4	62.2	62.4	62.4
Unemployed	904	740	661	725	749	663	707	720	692
Unemployment rate	7.0	8.0	7.2	8.3	8.4	7.5	7.8	8.0	7.6

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups. Seasonally adjusted data have been revised based on the experience through December 1998.

Table A-4. Selected employment indicators

(In thousands)

Category	Not seasonally adjusted			Seasonally adjusted					
	Dec. 1997	Nov. 1998	Dec. 1998	Dec. 1997	Aug. 1998	Sept. 1998	Oct. 1998	Nov. 1998	Dec. 1998
CHARACTERISTIC									
Civilian employed, 16 years and over	113,679	116,214	116,978	113,740	115,393	115,370	115,573	115,847	116,009
Married men, spouse present	40,707	40,900	40,996	40,816	40,511	40,513	40,504	40,407	40,483
Married women, spouse present	29,614	29,439	29,344	29,399	29,909	29,936	29,880	29,986	29,053
Women who maintain families	6,239	6,423	6,473	6,181	6,269	6,253	6,344	6,375	6,399
MAJOR INDUSTRY AND CLASS OF WORKER									
Agriculture:									
Wage and salary workers	1,469	1,599	1,507	1,599	1,607	1,612	1,661	1,672	1,599
Self-employed workers	1,369	1,407	1,347	1,401	1,411	1,421	1,405	1,460	1,349
Unpaid family workers	121	115	116	106	108	137	177	125	149
Nonagricultural industries:									
Wage and salary workers	102,239	104,123	104,231	101,992	103,207	103,301	103,733	103,770	103,904
Government	17,206	17,057	17,027	17,021	17,111	17,146	17,240	17,387	17,423
Private industries	85,033	86,485	86,934	84,901	86,096	86,396	86,493	86,383	86,481
Private households	1,136	1,213	1,173	1,172	1,125	1,119	1,152	1,259	1,210
Other industries	83,860	85,252	85,431	83,729	84,969	85,237	85,341	85,174	85,271
Self-employed workers	8,317	8,760	8,812	8,306	8,506	8,570	8,479	8,619	8,692
Unpaid family workers	249	269	264	253	241	230	232	300	266
PERSONS AT WORK PART TIME[1]									
All industries:									
Part time for economic reasons	5,189	4,958	5,239	5,248	5,192	5,097	4,969	5,081	5,321
Slack work	2,327	2,302	2,629	2,356	2,315	2,296	2,230	2,279	2,549
Could only find part-time work	2,817	2,657	2,323	2,817	2,473	2,399	2,369	2,575	2,410
Voluntary part time	15,691	16,721	16,420	14,980	14,999	15,270	15,181	15,446	15,383
Nonagricultural industries:									
Part time for economic reasons	4,910	4,899	4,961	4,979	4,972	4,992	4,727	4,819	5,033
Slack work	2,139	2,139	2,419	2,089	2,171	2,102	2,096	2,116	2,377
Could only find part-time work	2,462	2,160	2,299	2,518	2,406	2,317	2,319	2,286	2,307
Voluntary part time	15,299	16,396	16,019	14,206	14,564	14,819	14,679	14,968	14,928

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial dispute.

NOTE: Seasonally adjusted data have been revised based on the experience through December 1998.

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Table A-6. Range of unemployment measures based on varying definitions of unemployment and the labor force, seasonally adjusted

(Percent)

Measure	Quarterly averages					Monthly data		
	1997	1998				1998		
	IV	I	II	III	IV	Oct.	Nov.	Dec.
U-1 Persons unemployed 15 weeks or longer as a percent of the civilian labor force	1.5	1.4	1.3	1.3	1.2	1.3	1.2	1.2
U-2 Job losers as a percent of the civilian labor force	2.7	2.6	2.5	2.5	2.5	2.4	2.5	2.5
U-3 Unemployed persons 25 years and over as a percent of the civilian labor force	4.5	4.4	4.2	4.2	4.1	4.1	4.2	4.1
U-4 Unemployed full-time jobseekers as a percent of the full-time civilian labor force	5.5	5.3	5.1	5.1	5.0	5.0	5.0	5.1
U-5a Total unemployed as a percent of the labor force, including the resident Armed Forces	5.6	5.6	5.4	5.4	5.3	5.3	5.3	5.3
U-5b Total unemployed as a percent of the civilian labor force	5.9	5.7	5.5	5.5	5.3	5.3	5.4	5.3
U-6 Total full-time jobseekers plus 1/2 part-time jobseekers plus 1/2 total on part time for economic reasons as a percent of the civilian labor force less 1/2 of the part-time labor force	8.1	7.9	7.8	7.6	7.5	7.3	7.4	7.6
U-7 Total full-time jobseekers plus 1/2 part-time jobseekers plus 1/2 total on part time for economic reasons plus discouraged workers as a percent of the civilian labor force plus discouraged workers less 1/2 of the part-time labor force	8.9	8.7	8.3	8.4	8.2	N.A.	N.A.	N.A.

N.A. = not available.
NOTE: Data have been revised based on the experience through December 1998.

Table A-9. Selected unemployment indicators, seasonally adjusted

Category	Number of unemployed persons (in thousands)			Unemployment rates[1]					
	Dec. 1997	Nov. 1998	Dec. 1998	Dec. 1997	Aug. 1998	Sept. 1998	Oct. 1998	Nov. 1998	Dec. 1998
CHARACTERISTIC									
Total, 16 years and over	6,961	6,563	6,554	5.0	5.6	5.4	5.3	5.4	5.3
Men, 16 years and over	3,777	3,612	3,583	5.7	5.6	5.4	5.4	5.4	5.3
Men, 20 years and over	3,081	2,986	2,953	4.9	4.9	4.8	4.8	4.8	4.7
Women, 16 years and over	3,184	2,951	2,971	5.9	5.6	5.5	5.3	5.3	5.4
Women, 20 years and over	2,806	2,445	2,422	5.2	4.8	4.8	4.7	4.7	4.7
Both sexes, 16 to 19 years	1,295	1,122	1,179	16.0	15.4	15.5	15.0	14.1	14.8
Married men, spouse present	1,439	1,369	1,393	3.4	3.4	3.1	3.1	3.3	3.1
Married women, spouse present	1,286	1,136	1,111	4.4	4.0	3.8	3.7	3.8	3.7
Women who maintain families	556	533	571	8.3	7.5	8.1	7.9	7.7 -	8.2
Full-time workers	5,562	5,273	5,317	5.4	5.3	5.1	5.0	5.0	5.1
Part-time workers	1,421	1,291	1,256	8.1	7.4	7.4	7.4	7.1	7.0
Labor force time lost[2]	--	--	--	8.8	8.4	8.3	8.1	8.2	8.3
INDUSTRY									
Nonagricultural private wage and salary workers	5,109	5,081	4,927	5.7	5.8	5.4	5.4	5.5	5.4
Goods-producing industries	1,852	1,851	1,877	6.4	6.7	6.4	6.4	6.4	6.4
Mining	72	67	57	8.2	7.0	8.6	8.6	8.9	7.7
Construction	984	989	982	10.7	10.7	9.8	10.0	10.6	10.4
Manufacturing	1,116	1,115	1,158	5.2	5.5	5.4	5.3	5.1	5.2
Durable goods	615	639	656	4.8	5.0	5.2	5.0	4.9	5.0
Nondurable goods	501	476	502	5.6	6.3	5.8	5.7	5.3	5.5
Service-producing industries	3,256	3,210	3,050	5.3	5.1	5.0	4.9	5.1	4.9
Transportation and public utilities	296	257	241	4.6	3.8	3.8	3.5	4.0	3.8
Wholesale and retail trade	1,413	1,435	1,471	6.2	6.4	6.2	6.0	6.2	6.3
Finance and service industries	1,547	1,518	1,338	4.6	4.4	4.4	4.5	4.6	4.1
Government workers	535	447	477	3.0	2.9	2.7	2.6	2.5	2.7
Agricultural wage and salary workers	206	172	183	11.5	11.0	10.8	10.2	9.3	8.8

[1] Unemployment as a percent of the civilian labor force.
[2] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.
NOTE: Data have been revised based on the experience through December 1998.

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Table A-7. Duration of unemployment

(Numbers in thousands)

Weeks of unemployment	Not seasonally adjusted			Seasonally adjusted					
	Dec. 1997	Nov. 1998	Dec. 1998	Dec. 1997	Aug. 1998	Sept. 1998	Oct. 1998	Nov. 1998	Dec. 1998
DURATION									
Less than 5 weeks	2,871	3,080	2,701	3,225	3,158	3,116	3,089	3,117	3,019
5 to 14 weeks	1,981	1,909	2,045	1,981	1,956	1,896	1,835	1,936	2,094
15 weeks and over	1,986	1,335	1,396	1,791	1,639	1,580	1,554	1,502	1,489
15 to 26 weeks	813	662	701	891	831	775	788	787	758
27 weeks and over	951	653	636	900	805	793	766	715	737
Average (mean) duration, in weeks	14.6	12.5	13.2	14.2	13.5	13.5	13.4	12.8	12.9
Median duration, in weeks	6.3	5.3	6.1	5.9	5.9	5.7	5.7	5.6	5.8
PERCENT DISTRIBUTION									
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 weeks	44.0	48.7	44.0	46.2	46.8	47.4	47.4	47.6	46.2
5 to 14 weeks	30.5	30.2	33.3	28.4	29.0	28.8	28.5	29.5	31.1
15 weeks and over	25.5	21.1	22.7	25.5	24.2	23.9	24.1	22.9	22.8
15 to 26 weeks	12.5	10.8	11.4	12.6	12.3	11.9	12.2	12.0	11.5
27 weeks and over	13.0	10.3	11.3	12.9	11.9	12.1	11.9	10.9	11.2

NOTE: Seasonally adjusted data have been revised based on the experience through December 1998.

Table A-8. Reason for unemployment

(Numbers in thousands)

Reasons	Not seasonally adjusted			Seasonally adjusted					
	Dec. 1997	Nov. 1998	Dec. 1998	Dec. 1997	Aug. 1998	Sept. 1998	Oct. 1998	Nov. 1998	Dec. 1998
NUMBER OF UNEMPLOYED									
Job losers	3,208	2,909	3,079	3,192	3,112	3,079	2,951	3,031	3,088
On layoff	908	757	866	983	980	933	844	814	819
Other job losers	2,297	2,152	2,212	2,329	2,232	2,246	2,107	2,217	2,247
Job leavers	856	986	903	946	986	985	964	983	996
Reentrants	1,736	1,740	1,523	1,960	1,843	1,787	1,747	1,788	1,725
New entrants	727	709	638	900	800	781	747	799	799
PERCENT DISTRIBUTION									
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	48.1	48.0	50.1	45.8	46.2	46.7	45.9	46.2	46.9
On layoff	13.9	12.0	14.1	12.3	13.1	12.6	13.1	12.4	12.4
Other job losers	35.2	34.0	36.0	33.3	33.1	34.1	32.8	33.8	34.1
Job leavers	13.1	15.3	14.7	13.5	14.9	14.9	15.3	14.7	15.1
Reentrants	26.8	27.5	24.8	28.0	27.3	26.8	27.2	26.9	26.2
New entrants	11.1	11.2	10.4	12.9	11.9	11.5	11.6	12.2	12.1
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE									
Job losers	2.7	2.4	2.5	2.6	2.6	2.5	2.4	2.5	2.5
Job leavers	.7	.8	.7	.8	.8	.8	.8	.8	.8
Reentrants	1.4	1.4	1.2	1.6	1.5	1.4	1.4	1.4	1.4
New entrants	.6	.6	.5	.7	.7	.6	.6	.7	.7

NOTE: Seasonally adjusted data have been revised based on the experience through December 1998.

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Table A-9. Unemployed persons by sex and age, seasonally adjusted

Sex and age	Number of unemployed persons (in thousands)			Unemployment rates					
	Dec. 1987	Nov. 1988	Dec. 1988	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988
Total, 16 years and over	6,981	6,583	6,564	5.8	5.6	5.4	5.3	5.4	5.3
16 to 24 years	2,543	2,383	2,421	11.2	11.0	10.9	10.9	10.8	10.9
16 to 19 years	1,295	1,122	1,179	16.0	15.4	15.5	15.0	14.1	14.8
16 to 17 years	604	520	535	17.6	18.5	19.6	17.2	15.8	16.6
18 to 19 years	683	599	637	14.6	13.7	12.8	13.3	12.9	13.3
20 to 24 years	1,248	1,241	1,242	8.6	8.4	8.4	8.6	8.7	8.7
25 years and over	4,400	4,193	4,125	4.5	4.4	4.2	4.1	4.2	4.1
25 to 54 years	3,940	3,738	3,667	4.8	4.5	4.4	4.3	4.4	4.3
55 years and over	470	433	457	3.1	3.2	2.9	2.8	2.8	3.0
Men, 16 years and over	3,777	3,612	3,583	5.7	5.6	5.4	5.4	5.4	5.3
16 to 24 years	1,380	1,274	1,280	11.7	11.4	11.3	11.8	10.9	11.1
16 to 19 years	716	616	630	17.1	16.0	16.4	16.5	14.8	15.4
16 to 17 years	339	300	290	18.8	17.7	20.8	18.5	17.3	17.3
18 to 19 years	370	314	333	15.4	14.5	13.5	15.0	13.0	13.5
20 to 24 years	664	658	650	8.8	8.9	8.5	9.2	8.8	8.7
25 years and over	2,387	2,331	2,296	4.4	4.4	4.1	4.0	4.2	4.1
25 to 54 years	2,093	2,050	1,999	4.6	4.5	4.3	4.2	4.4	4.3
55 years and over	277	275	286	3.1	3.4	2.9	3.0	3.2	3.3
Women, 16 years and over	3,184	2,951	2,871	5.9	5.5	5.5	5.3	5.3	5.4
16 to 24 years	1,163	1,089	1,141	10.7	10.4	10.5	9.9	10.3	10.7
16 to 19 years	579	506	549	14.8	14.8	14.5	13.3	13.3	14.2
16 to 17 years	266	220	245	16.3	19.2	18.2	15.8	14.1	15.8
18 to 19 years	313	285	304	13.8	12.8	12.0	11.6	12.8	13.1
20 to 24 years	584	583	592	8.4	8.0	8.2	7.9	8.6	8.7
25 years and over	2,013	1,862	1,829	4.6	4.3	4.3	4.2	4.2	4.1
25 to 54 years	1,847	1,689	1,668	5.0	4.6	4.5	4.5	4.4	4.4
55 years and over	193	158	171	3.1	2.8	2.9	2.4	2.4	2.6

[1] Unemployment as a percent of the civilian labor force.

NOTE: Data have been revised based on the experience through December 1988.

Table A-10. Employment status of black and other workers

(Numbers in thousands)

Employment status	Not seasonally adjusted			Seasonally adjusted[1]					
	Dec. 1987	Nov. 1988	Dec. 1988	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988
Civilian noninstitutional population	26,088	26,641	26,697	26,088	26,490	26,540	26,590	26,641	26,697
Civilian labor force	16,783	17,129	17,148	16,905	16,996	16,910	17,070	17,079	17,172
Participation rate	64.3	64.3	64.2	64.5	64.1	63.7	64.2	64.1	64.3
Employed	15,040	15,498	15,555	14,965	15,282	15,301	15,394	15,388	15,457
Employment-population ratio[2]	57.7	58.2	58.3	57.4	57.7	57.7	57.9	57.7	57.9
Unemployed	1,723	1,634	1,593	1,860	1,704	1,609	1,676	1,714	1,715
Unemployment rate	10.3	9.5	9.3	11.0	10.0	9.5	9.8	10.0	10.0
Not in labor force	9,306	9,512	9,549	9,363	9,504	9,630	9,520	9,562	9,525

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Seasonally adjusted data have been revised based on the experience through December 1988.

HOUSEHOLD DATA

Table A-11. Occupational status of the employed and unemployed, not seasonally adjusted

(Numbers in thousands)

Occupation	Civilian employed		Unemployed		Unemployment rate	
	Dec. 1987	Dec. 1988	Dec. 1987	Dec. 1988	Dec. 1987	Dec. 1988
Total, 16 years and over[1]	113,679	115,978	6,526	6,142	5.4	5.0
Managerial and professional specialty	28,519	29,754	605	503	2.1	1.7
Executive, administrative, and managerial	13,646	14,309	342	308	2.5	2.1
Professional specialty	14,972	15,446	263	195	1.7	1.2
Technical, sales, and administrative support	35,929	36,089	1,329	1,321	3.6	3.5
Technicians and related support	3,383	3,563	93	89	2.7	2.4
Sales occupations	13,932	14,292	564	587	3.9	4.0
Administrative support, including clerical	18,666	18,203	671	635	3.5	3.4
Service occupations	15,250	15,845	1,148	1,042	7.0	6.2
Private household	921	986	60	60	6.1	5.8
Protective service	1,947	1,881	78	79	3.7	4.0
Service, except private household and protective	12,383	12,787	1,011	903	7.5	6.6
Precision production, craft, and repair	13,431	13,589	738	755	5.2	5.3
Mechanics and repairers	4,347	4,349	172	175	3.8	3.9
Construction trades	5,046	5,087	406	403	7.5	7.3
Other precision production, craft, and repair	4,050	4,153	160	176	3.8	4.1
Operators, fabricators, and laborers	17,554	17,868	1,687	1,600	8.7	8.2
Machine operators, assemblers, and inspectors	8,023	8,285	663	684	7.9	7.8
Transportation and material moving occupations	4,871	4,969	380	285	7.5	5.5
Handlers, equipment cleaners, helpers, and laborers	4,661	4,714	604	631	11.0	11.9
Construction laborers	786	717	193	218	19.7	23.4
Other handlers, equipment cleaners, helpers, and laborers	4,079	3,998	411	413	9.2	9.4
Farming, forestry, and fishing	2,996	3,034	396	243	8.7	7.5

[1] Persons with no previous work experience and those whose last job was in the Armed Forces are included in the unemployed total.

Table A-12. Employment status of male Vietnam-era veterans and nonveterans by age, not seasonally adjusted

(Numbers in thousands)

Veteran status and age	Civilian noninstitutional population		Civilian labor force							
			Total		Employed		Unemployed			
							Number		Percent of labor force	
	Dec. 1987	Dec. 1988	Dec. 1987	Dec. 1988	Dec. 1987	Dec. 1988	Dec. 1987	Dec. 1988	Dec. 1987	Dec. 1988
VIETNAM-ERA VETERANS										
Total, 30 years and over	7,883	7,903	7,242	7,248	6,902	6,961	340	287	4.7	4.0
30 to 44 years	5,683	5,729	5,796	5,424	5,481	5,212	305	212	5.3	3.9
30 to 34 years	813	562	706	559	667	525	79	34	10.5	6.1
35 to 39 years	2,402	1,969	2,304	1,882	2,185	1,796	119	86	5.2	4.6
40 to 44 years	2,868	3,198	2,718	2,983	2,609	2,891	107	92	3.9	3.1
45 years and over	1,790	2,174	1,496	1,824	1,421	1,749	35	75	2.4	4.1
NONVETERANS										
Total, 30 to 44 years	19,906	20,885	18,727	19,692	17,943	18,918	784	776	4.2	3.9
30 to 34 years	8,974	9,221	8,467	8,732	8,081	8,390	386	342	4.7	3.9
35 to 39 years	6,501	7,077	6,113	6,655	5,886	6,387	227	268	3.7	3.9
40 to 44 years	4,432	4,587	4,127	4,305	3,956	4,129	161	176	3.9	4.1

NOTE: Male Vietnam-era veterans are men who served in the Armed Forces between August 5, 1964 and May 7, 1975. Nonveterans are men who have never served in the Armed Forces; published data are limited to those 30 to 44 years of age, the group that most closely corresponds to the bulk of the Vietnam-era veteran population.

HOUSEHOLD DATA

Table A-13. Employment status of the civilian population for eleven large States

(Numbers in thousands)

State and employment status	Not seasonally adjusted			Seasonally adjusted					
	Dec. 1987	Nov. 1988	Dec. 1988	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988
California									
Civilian noninstitutional population	20,751	21,151	21,189	20,751	21,043	21,078	21,115	21,151	21,189
Civilian labor force	13,862	14,337	14,276	13,969	14,159	14,142	14,186	14,338	14,369
Employed	13,185	13,606	13,659	13,221	13,373	13,411	13,457	13,584	13,699
Unemployed	677	731	617	729	786	731	703	754	670
Unemployment rate	4.9	5.1	4.3	5.2	5.6	5.2	5.0	5.3	4.7
Florida									
Civilian noninstitutional population	9,548	9,771	9,792	9,548	9,711	9,731	9,752	9,771	9,792
Civilian labor force	6,002	6,103	6,077	5,990	6,162	6,121	6,166	6,125	6,058
Employed	5,706	5,798	5,751	5,691	5,862	5,820	5,863	5,802	5,724
Unemployed	297	317	326	309	300	301	305	323	334
Unemployment rate	5.0	5.2	5.4	5.2	4.9	4.9	4.9	5.3	5.5
Illinois									
Civilian noninstitutional population	8,781	8,798	8,800	8,781	8,787	8,790	8,793	8,796	8,800
Civilian labor force	5,716	5,908	5,895	5,751	5,867	5,797	5,807	5,932	5,882
Employed	5,320	5,523	5,491	5,325	5,472	5,450	5,425	5,508	5,488
Unemployed	396	385	384	426	415	347	382	424	394
Unemployment rate	6.9	6.5	6.2	7.4	7.0	6.0	6.6	7.1	6.7
Massachusetts									
Civilian noninstitutional population	4,586	4,807	4,809	4,586	4,804	4,806	4,808	4,807	4,809
Civilian labor force	3,087	3,146	3,135	3,098	3,119	3,144	3,157	3,152	3,148
Employed	3,006	3,035	3,041	2,998	3,016	3,051	3,054	3,027	3,039
Unemployed	82	111	94	90	104	93	103	125	107
Unemployment rate	2.6	3.5	3.0	2.9	3.3	3.0	3.3	4.0	3.4
Michigan									
Civilian noninstitutional population	6,982	7,016	7,022	6,982	7,002	7,007	7,012	7,016	7,022
Civilian labor force	4,491	4,662	4,611	4,529	4,566	4,572	4,583	4,624	4,624
Employed	4,119	4,337	4,295	4,137	4,229	4,238	4,255	4,294	4,279
Unemployed	372	315	327	392	337	334	328	340	345
Unemployment rate	8.3	6.8	7.1	8.7	7.4	7.3	7.2	7.4	7.5
New Jersey									
Civilian noninstitutional population	6,021	6,052	6,056	6,021	6,044	6,047	6,050	6,052	6,056
Civilian labor force	3,954	3,956	4,017	4,006	3,983	3,979	3,937	3,972	4,061
Employed	3,813	3,816	3,858	3,848	3,828	3,829	3,785	3,816	3,888
Unemployed	142	139	159	157	155	150	152	156	173
Unemployment rate	3.6	3.5	4.0	3.9	3.9	3.8	3.9	3.9	4.3
New York									
Civilian noninstitutional population	13,768	13,776	13,778	13,768	13,774	13,773	13,776	13,776	13,778
Civilian labor force	8,536	8,564	8,586	8,512	8,509	8,517	8,464	8,543	8,572
Employed	8,171	8,192	8,200	8,127	8,208	8,149	8,141	8,154	8,153
Unemployed	365	371	386	385	383	368	353	389	419
Unemployment rate	4.2	4.3	4.6	4.5	4.5	4.3	4.2	4.6	4.9
North Carolina									
Civilian noninstitutional population	4,846	4,912	4,918	4,846	4,894	4,900	4,906	4,912	4,918
Civilian labor force	3,280	3,378	3,330	3,291	3,239	3,332	3,347	3,372	3,339
Employed	3,144	3,255	3,221	3,144	3,236	3,209	3,222	3,250	3,220
Unemployed	136	123	110	147	103	123	125	122	119
Unemployment rate	4.2	3.6	3.3	4.5	3.1	3.7	4.0	3.6	3.6
Ohio									
Civilian noninstitutional population	8,179	8,215	8,219	8,179	8,205	8,208	8,212	8,216	8,219
Civilian labor force	5,259	5,360	5,312	5,264	5,299	5,251	5,311	5,346	5,321
Employed	4,937	5,075	5,028	4,937	5,000	4,947	5,016	5,041	5,028
Unemployed	322	284	284	327	299	304	295	304	293
Unemployment rate	6.1	5.3	5.4	6.2	5.6	5.8	5.6	5.7	5.5

See footnotes at end of table.

HOUSEHOLD DATA

Table A-13. Employment status of the civilian population for eleven large States—Continued

(Numbers in thousands)

State and employment status	Not seasonally adjusted[1]			Seasonally adjusted[2]					
	Dec. 1987	Nov. 1988	Dec. 1988	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988
Pennsylvania									
Civilian noninstitutional population	9,307	9,331	9,334	9,307	9,325	9,327	9,330	9,331	9,334
Civilian labor force	5,752	5,739	5,766	5,780	5,768	5,815	5,707	5,726	5,787
Employed	5,459	5,491	5,523	5,457	5,526	5,500	5,394	5,465	5,517
Unemployed	293	248	243	323	260	315	313	261	270
Unemployment rate	5.1	4.3	4.2	5.6	4.5	5.4	5.5	4.6	4.7
Texas									
Civilian noninstitutional population	12,048	12,081	12,085	12,048	12,072	12,075	12,079	12,081	12,085
Civilian labor force	8,269	8,420	8,325	8,268	8,381	8,364	8,359	8,351	8,320
Employed	7,708	7,868	7,806	7,648	7,814	7,768	7,739	7,772	7,726
Unemployed	561	552	519	640	567	596	620	579	594
Unemployment rate	6.8	6.6	6.2	7.7	6.8	7.0	7.4	6.9	7.1

[1] These are the official Bureau of Labor Statistics' estimates used in the administration of Federal fund allocation programs.

[2] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and the seasonally adjusted columns.

NOTE: Revised seasonal factors are not yet available for State data. The seasonally adjusted series will be revised for the release of January data on February 3.

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HOUSEHOLD DATA

Table A-14. Persons not in the labor force by reason, sex, and race, quarterly averages

(In thousands)

Reason, sex, and race	Not seasonally adjusted		Seasonally adjusted				
	1987	1988	1987	1988			
	IV	IV	IV	I	II	III	IV
TOTAL							
Total not in labor force	62,947	62,856	62,915	62,922	63,037	62,959	62,985
Do not want a job now	57,614	57,586	57,357	57,480	57,630	56,202	57,491
Current activity: Going to school	8,184	7,915	6,436	6,350	6,329	7,022	6,229
Ill, disabled	4,248	4,577	4,397	4,292	4,462	4,453	4,730
Keeping house	25,391	24,361	25,578	25,304	25,339	25,331	24,588
Retired	16,224	16,960	16,456	16,889	16,797	16,625	17,251
Other activity	3,567	3,723	4,490	4,675	4,683	4,571	4,693
Want a job now	5,333	5,271	5,455	5,484	5,318	5,276	5,418
Reason not looking: School attendance	1,343	1,387	1,371	1,327	1,286	1,387	1,412
Ill health, disability	901	787	849	846	832	794	750
Home responsibilities	1,170	1,083	1,237	1,193	1,209	1,128	1,145
Think cannot get a job	891	923	913	990	914	941	951
Job-market factors[1]	566	574	587	667	600	599	597
Personal factors[2]	325	349	326	323	314	341	354
Other reasons	1,029	1,091	1,085	1,125	1,076	1,026	1,160
Men							
Total not in labor force	21,130	21,361	20,830	20,956	20,858	20,926	21,094
Do not want a job now	19,229	19,393	18,868	19,012	18,888	19,100	19,062
Want a job now	1,902	1,968	1,902	1,968	1,969	1,920	1,985
Reason not looking: School attendance	707	702	719	854	677	669	716
Ill health, disability	458	382	417	410	367	379	381
Think cannot get a job	358	436	364	440	414	447	448
Other reasons[1]	378	448	403	482	431	425	473
Women							
Total not in labor force	41,817	41,495	42,076	42,056	42,180	42,035	41,781
Do not want a job now	38,385	38,192	38,489	38,478	38,742	39,103	38,428
Want a job now	3,432	3,303	3,553	3,518	3,429	3,356	3,433
Reason not looking: School attendance	636	685	652	673	609	718	697
Ill health, disability	443	406	432	439	466	415	399
Home responsibilities	1,170	1,083	1,237	1,193	1,209	1,128	1,145
Think cannot get a job	533	487	549	551	500	494	505
Other reasons[1]	650	643	682	663	645	601	688
White							
Total not in labor force	53,748	53,352	53,680	53,517	53,493	53,447	53,325
Do not want a job now	49,811	49,591	49,594	49,547	49,651	49,728	49,381
Want a job now	3,936	3,761	4,012	4,012	3,866	3,691	3,864
Reason not looking: School attendance	949	905	962	954	917	908	911
Ill health, disability	701	548	651	640	639	556	511
Home responsibilities	884	798	901	848	848	806	828
Think cannot get a job	598	663	611	670	596	600	676
Other reasons[1]	823	849	887	900	864	821	928
Black							
Total not in labor force	7,326	7,472	7,314	7,431	7,561	7,497	7,471
Do not want a job now	6,099	6,190	6,090	6,115	6,340	6,227	6,182
Want a job now	1,227	1,282	1,211	1,301	1,267	1,241	1,259
Reason not looking: School attendance	348	393	335	346	327	316	374
Ill health, disability	183	214	173	197	167	217	206
Home responsibilities	278	257	299	306	315	270	272
Think cannot get a job	248	212	244	264	276	290	210
Other reasons[1]	172	207	161	185	182	147	197

[1] Job-market factors include "could not find job" and "thinks no job available."

[2] Personal factors include "employers think too young or old," "lacks education or training," and "other personal handicap."

[1] Includes small number of men not looking for work because of "home responsibilities."

NOTE: Seasonally adjusted data have been revised based on the experience through December 1988.

ESTABLISHMENT DATA

Table B-1. Employees on nonagricultural payrolls by industry

(In thousands)

ESTABLISHMENT DATA

Industry	Not seasonally adjusted				Seasonally adjusted					
	Dec. 1987	Oct. 1988	Nov. 1988p/	Dec. 1988p/	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988p/	Dec. 1988p/
Total	104.889	107.850	108.271	108.507	104.001	106.425	106.737	106.973	107.377	107.656
Total private	87.318	90.124	90.348	90.636	86.794	89.066	89.285	89.481	89.817	90.082
Goods-producing industries	25.173	26.161	26.083	25.872	25.201	25.639	25.648	25.743	25.846	25.895
Mining	760	736	738	728	735	739	734	729	721	723
Oil and gas extraction	425.4	415.9	411.7	410.7	417	423	419	413	405	402
Construction	5.063	5.445	5.551	5.564	5.118	5.340	5.365	5.366	5.405	5.418
General building contractors	1,353.5	1,459.6	1,443.3	1,415.3	1.352	1.401	1.404	1.395	1.404	1.414
Manufacturing	19.370	19.760	19.802	19.780	19.348	19.560	19.569	19.448	19.718	19.752
Production workers	13.239	13.522	13.551	13.516	13.215	13.352	13.332	13.412	13.467	13.489
Durable goods	11.413	11.662	11.684	11.697	11.390	11.547	11.537	11.595	11.638	11.668
Production workers	7.615	7.781	7.815	7.820	7.590	7.705	7.689	7.733	7.768	7.792
Lumber and wood products	745.2	771.8	768.6	761.2	756	753	753	760	768	772
Furniture and fixtures	538.8	544.3	546.4	547.7	533	537	538	540	540	542
Stone, clay, and glass products	580.9	596.5	594.9	587.6	588	586	585	588	591	594
Primary metal industries	769.3	798.5	796.2	796.6	769	785	787	794	796	796
Blast furnaces and basic steel products	279.2	279.6	281.1	281.7	279	281	280	282	283	281
Fabricated metal products	1,438.7	1,477.7	1,482.3	1,484.6	1,433	1,458	1,460	1,469	1,473	1,479
Machinery, except electrical	2,077.5	2,168.4	2,181.4	2,197.2	2,074	2,156	2,159	2,175	2,186	2,193
Electrical and electronic equipment	2,117.8	2,134.8	2,139.4	2,138.6	2,110	2,126	2,124	2,126	2,131	2,130
Transportation equipment	2,065.9	2,049.1	2,064.7	2,073.9	2,046	2,044	2,032	2,045	2,050	2,053
Motor vehicles and equipment	865.7	862.6	869.2	875.8	851	855	849	859	860	861
Instruments and related products	705.5	718.2	720.6	725.0	704	718	716	719	720	723
Miscellaneous manufacturing	377.8	390.5	391.1	384.9	379	384	383	381	383	386
Nondurable goods	7.955	8.118	8.118	8.083	7.958	8.013	8.012	8.053	8.080	8.084
Production workers	5.624	5.741	5.736	5.696	5.625	5.647	5.643	5.679	5.699	5.697
Food and kindred products	1,627.9	1,695.9	1,676.6	1,649.5	1,638	1,638	1,632	1,656	1,662	1,659
Tobacco manufactures	57.0	55.3	54.5	54.6	54	52	51	52	53	52
Textile mill products	733.6	726.0	725.5	723.9	733	719	722	722	723	723
Apparel and other textile products	1,105.9	1,098.2	1,101.0	1,093.8	1,106	1,089	1,087	1,086	1,093	1,094
Paper and allied products	684.8	692.2	693.2	690.7	684	691	688	691	692	689
Printing and publishing	1,558.9	1,579.2	1,591.0	1,596.0	1,552	1,572	1,575	1,581	1,583	1,590
Chemicals and allied products	1,044.3	1,071.3	1,071.7	1,075.3	1,047	1,070	1,069	1,071	1,073	1,075
Petroleum and coal products	164.5	169.3	168.5	164.8	167	167	168	169	169	167
Rubber and misc. plastics products	851.2	884.7	888.5	889.7	851	878	874	882	887	889
Leather and leather products	146.4	147.1	147.2	146.3	146	145	146	145	145	146
Service-producing industries	79.636	81.709	82.188	82.635	78.800	80.786	81.089	81.230	81.533	81.763
Transportation and public utilities	5.521	5.683	5.683	5.696	5.481	5.605	5.618	5.631	5.648	5.650
Transportation	3.287	3.434	3.434	3.451	3.244	3.351	3.366	3.380	3.397	3.403
Communication and public utilities	2.234	2.249	2.249	2.245	2.237	2.254	2.252	2.251	2.251	2.247
Wholesale trade	5.993	6.276	6.293	6.315	5.984	6.192	6.218	6.266	6.276	6.303
Durable goods	3.538	3.743	3.765	3.789	3.536	3.694	3.714	3.736	3.761	3.785
Nondurable goods	2.455	2.533	2.528	2.526	2.448	2.496	2.504	2.510	2.515	2.518
Retail trade	19.488	19.486	19.478	20.081	18.784	19.279	19.291	19.327	19.387	19.459
General merchandise stores	2,883.7	2,550.5	2,491.9	2,880.2	2,494	2,559	2,553	2,520	2,518	2,565
Food stores	3,051.6	3,149.1	3,195.2	3,239.5	2,988	3,106	3,118	3,143	3,157	3,173
Automotive dealers and service stations	2,021.9	2,106.9	2,099.8	2,097.7	2,033	2,095	2,095	2,103	2,106	2,108
Eating and drinking places	6,174.9	6,421.9	6,381.7	6,398.5	6,232	6,377	6,384	6,415	6,440	6,449
Finance, insurance, and real estate	6.681	6.691	6.699	6.712	6.619	6.689	6.692	6.708	6.724	6.735
Finance	3.296	3.295	3.304	3.317	3.281	3.298	3.308	3.308	3.316	3.324
Insurance	2.067	2.085	2.090	2.096	2.049	2.081	2.083	2.089	2.092	2.096
Real estate	1.258	1.311	1.305	1.301	1.269	1.310	1.309	1.311	1.318	1.313
Services	24,622	25,929	25,912	25,960	24,725	25,662	25,737	25,826	25,938	26,064
Business services	5,326.6	5,689.0	5,599.2	5,628.3	5,306	5,512	5,538	5,553	5,560	5,606
Health services	6,982.7	7,365.3	7,405.8	7,458.7	6,995	7,271	7,325	7,365	7,413	7,474
Government	17,491	17,726	17,923	17,871	17,207	17,359	17,452	17,492	17,560	17,574
Federal	2,972	2,968	2,970	2,984	2,980	2,956	2,980	2,989	2,988	2,993
State	4,084	4,168	4,189	4,170	4,001	4,070	4,086	4,070	4,071	4,084
Local	10,435	10,590	10,764	10,717	10,226	10,333	10,457	10,433	10,501	10,497

p = preliminary.

ESTABLISHMENT DATA

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Table B-2. Average weekly hours of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Dec. 1987	Oct. 1988	Nov. 1988p/	Dec. 1988p/	Dec. 1987	Aug. 1988	Sept. 1988	Oct 1988	Nov. 1988p/	Dec. 1988p/
Total private	34.8	34.9	34.7	34.9	34.6	34.6	34.7	34.9	34.8	34.7
Mining	43.1	42.7	41.9	42.1	(2)	(2)	(2)	(2)	(2)	(2)
Construction	37.6	39.0	37.7	37.2	(2)	(2)	(2)	(2)	(2)	(2)
Manufacturing	41.8	41.3	41.5	41.8	41.0	41.0	41.2	41.2	41.2	41.0
Overtime hours	4.2	4.1	4.2	4.3	3.9	3.9	3.9	4.0	3.9	3.9
Durable goods	42.4	42.0	42.2	42.6	41.5	41.6	41.9	41.9	41.9	41.7
Overtime hours	4.3	4.3	4.3	4.6	3.9	4.1	4.0	4.2	4.1	4.1
Lumber and wood products	40.5	40.9	40.0	40.7	40.4	40.0	39.9	40.7	40.3	40.6
Furniture and fixtures	41.1	40.1	39.9	40.6	39.8	39.0	39.6	39.4	39.5	39.5
Stone, clay, and glass products	42.3	43.0	42.6	41.9	42.5	42.1	42.5	42.5	42.6	42.1
Primary metal industries	44.1	43.6	43.9	44.1	43.4	43.3	44.0	45.8	43.7	43.6
Blast furnaces and basic steel products	44.6	43.9	44.0	44.3	44.8	44.0	44.6	44.3	44.0	43.8
Fabricated metal products	42.7	42.0	42.4	42.9	41.7	41.8	42.0	41.9	42.1	41.9
Machinery, except electrical	43.7	42.5	42.7	43.5	42.6	42.4	42.7	42.6	42.4	42.6
Electrical and electronic equipment	42.0	41.0	41.4	41.8	40.9	40.8	41.0	41.0	41.0	40.7
Transportation equipment	42.7	43.1	43.7	44.2	41.5	42.7	43.3	43.3	43.4	43.0
Motor vehicles and equipment	42.8	44.0	44.8	45.4	41.4	43.6	44.5	44.2	44.8	43.9
Instruments and related products	42.2	41.7	41.9	42.4	41.2	41.5	41.6	41.9	41.5	41.6
Miscellaneous manufacturing	40.0	39.4	39.8	39.8	39.2	39.2	39.2	39.1	39.3	39.0
Nondurable goods	40.9	40.3	40.5	40.6	40.3	40.1	40.2	40.2	40.2	40.0
Overtime hours	3.9	3.9	3.9	3.9	3.7	3.6	3.7	3.8	3.7	3.7
Food and kindred products	41.1	40.8	40.9	41.1	40.5	40.4	40.3	40.6	40.6	40.5
Tobacco manufactures	40.5	41.5	40.3	39.6	(2)	(2)	(2)	(2)	(2)	(2)
Textile mill products	42.1	41.2	41.4	41.6	41.5	41.1	41.1	41.0	41.0	41.0
Apparel and other textile products	37.6	37.0	37.5	37.5	37.1	36.8	37.1	36.8	37.0	36.8
Paper and allied products	44.2	43.5	43.5	43.8	43.3	43.2	43.3	43.2	43.0	42.9
Printing and publishing	38.7	38.1	38.1	38.4	38.0	38.0	38.1	38.0	37.8	37.7
Chemicals and allied products	43.0	42.3	42.6	42.8	42.5	42.1	42.1	42.5	42.4	42.5
Petroleum and coal products	44.5	44.7	44.1	43.8	(2)	(2)	(2)	(2)	(2)	(2)
Rubber and misc. plastics products	42.4	41.4	41.9	42.2	41.4	41.5	41.6	41.5	41.7	41.6
Leather and leather products	38.6	37.9	37.6	37.7	38.0	37.4	37.5	37.9	37.5	37.1
Transportation and public utilities	39.2	39.5	39.4	39.6	39.1	39.3	39.4	39.4	39.3	39.5
Wholesale trade	38.2	38.2	38.0	38.2	38.0	37.8	38.1	38.1	38.0	38.0
Retail trade	29.3	29.1	28.8	29.3	28.8	29.0	28.9	29.2	29.8	28.9
Finance, insurance, and real estate	36.8	36.8	35.7	35.8	(2)	(2)	(2)	(2)	(2)	(2)
Services	32.4	32.7	32.5	32.6	32.5	32.4	32.6	32.8	32.6	32.7

1/ Data relate to production workers in mining and manufacturing; construction workers in construction; and nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance; insurance, and real estate; and services. These groups account for approximately four-fifths of the total employees on private nonagricultural payrolls.

2/ These series are not published seasonally adjusted since the seasonal component is small relative to the trend-cycle and/or irregular components and consequently cannot be separated with sufficient precision.

p = preliminary.

ESTABLISHMENT DATA

ESTABLISHMENT DATA

Table B-3. Average hourly and weekly earnings of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

Industry	Average hourly earnings				Average weekly earnings			
	Dec. 1987	Oct. 1988	Nov. 1988p/	Dec. 1988p/	Dec. 1987	Oct. 1988	Nov. 1988p/	Dec. 1988p/
Total private	$9.13	$9.45	$9.45	$9.45	$317.72	$329.81	$327.92	$329.81
Seasonally adjusted	9.11	9.43	9.42	9.44	315.21	329.11	327.82	327.57
Mining	12.60	12.72	12.80	12.84	543.06	543.14	536.32	540.56
Construction	12.81	13.13	13.04	13.15	481.66	512.07	491.61	489.18
Manufacturing	10.07	10.24	10.30	10.37	420.93	422.91	427.45	433.47
Durable goods	10.60	10.78	10.85	10.92	449.44	452.76	457.87	465.19
Lumber and wood products	8.43	8.76	8.68	8.74	341.42	358.28	347.20	355.72
Furniture and fixtures	7.78	8.04	8.00	8.04	319.76	322.40	319.20	326.42
Stone, clay, and glass products	10.29	10.58	10.60	10.50	435.27	454.94	451.56	439.95
Primary metal industries	12.11	12.20	12.23	12.26	534.05	531.92	536.90	540.67
Blast furnaces and basic steel products	13.93	14.04	13.99	13.96	618.49	616.36	615.56	618.43
Fabricated metal products	10.19	10.32	10.35	10.39	435.11	433.44	438.84	445.72
Machinery, except electrical	10.89	11.07	11.17	11.20	475.89	470.48	476.96	487.20
Electrical and electronic equipment	10.03	10.16	10.23	10.30	421.26	416.56	423.52	430.54
Transportation equipment	13.25	13.49	13.61	13.78	565.78	581.42	594.76	609.08
Motor vehicles and equipment	13.87	14.16	14.26	14.48	595.64	623.04	638.85	657.39
Instruments and related products	9.84	10.05	10.02	10.06	415.25	419.09	419.84	426.54
Miscellaneous manufacturing	7.91	8.07	8.09	8.17	316.40	319.57	321.98	325.17
Nondurable goods	9.32	9.48	9.52	9.60	381.19	382.04	385.56	389.76
Food and kindred products	9.07	9.04	9.15	9.21	372.78	368.83	374.24	373.53
Tobacco manufactures	13.69	13.92	14.45	14.40	554.45	574.90	582.34	567.36
Textile mill products	7.31	7.45	7.47	7.51	307.75	306.94	309.26	312.42
Apparel and other textile products	6.00	6.20	6.23	6.27	225.60	229.40	232.38	233.87
Paper and allied products	11.53	11.67	11.70	11.78	509.63	505.31	506.61	515.96
Printing and publishing	10.45	10.68	10.66	10.72	403.64	406.91	406.15	411.65
Chemicals and allied products	12.61	12.79	12.87	13.02	542.23	541.02	548.26	557.26
Petroleum and coal products	14.73	15.22	15.26	15.25	655.49	680.33	672.97	667.95
Rubber and misc. plastics products	9.04	9.20	9.22	9.29	383.30	382.72	386.32	392.04
Leather and leather products	6.16	6.34	6.39	6.33	237.78	240.29	240.26	238.64
Transportation and public utilities	12.24	12.43	12.50	12.48	479.81	490.99	492.50	494.21
Wholesale trade	9.75	10.08	10.05	10.13	371.69	385.06	381.90	386.97
Retail trade	6.19	6.38	6.43	6.40	181.37	185.66	185.18	187.52
Finance, insurance, and real estate	8.81	9.29	9.27	9.28	317.16	334.44	330.94	332.22
Services	8.73	9.07	9.09	9.13	282.85	296.59	295.43	297.64

1/ See footnote 1, table B-2.

p = preliminary.

Table B-4. Hourly Earnings Index for production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

(1977=100)

Industry	Not seasonally adjusted					Seasonally adjusted						
	Dec. 1987	Oct. 1988	Nov. 1988p/	Dec. 1988p/	Percent change from: Dec. 1987-Dec. 1988	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988p/	Dec. 1988p/	Percent change from: Nov. 1988-Dec. 1988
Total private nonfarm:												
Current dollars	176.3	181.4	181.7	182.2	3.4	175.7	179.5	180.3	181.5	181.4	181.7	0.2
Constant (1977) dollars	94.1	92.9	93.0	N.A.	(2)	93.7	92.9	93.0	93.1	92.9	N.A.	(3)
Mining	183.9	186.5	187..	187.3	1.8	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Construction	155.9	160.8	159.5	160.4	2.9	155.4	158.6	159.3	159.2	159.3	159.9	.4
Manufacturing	177.0	179.8	180.6	181.3	2.4	176.6	179.5	180.0	180.5	180.7	180.9	.1
Transportation and public utilities	179.8	183.1	184.2	184.4	2.6	178.2	181.9	182.0	183.1	182.9	182.8	- .1
Wholesale trade	179.6	186.0	185.1	186.6	3.9	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Retail trade	162.7	168.3	168.9	168.2	3.4	162.7	166.7	167.1	168.4	168.9	168.2	- .4
Finance,insurance, and real estate	189.9	200.2	199.5	200.2	5.5	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Services	186.2	193.8	194.0	194.9	4.7	185.2	190.9	191.9	194.0	193.3	193.9	.4

1/ See footnote 1, table B-2.

2/ Change is -.9 percent from November 1987 to November 1988, the latest month available.

3/ Change is -.2 percent from October 1988 to November 1988, the latest month available.

4/ These series are not seasonally adjusted since the seasonal component is small relative to the trend-cycle and/or irregular components and consequently cannot be separated with sufficient precision.

N.A. Data not available.

p = preliminary.

NOTE: Beginning with data for January 1989, the Hourly Earnings Index series will no longer be published in this release. For further information, see "Employment Cost Index Series to Replace Hourly Earnings Index," Monthly Labor Review, July 1988, pp. 32-35.

ESTABLISHMENT DATA

ESTABLISHMENT DATA

Table B-5. Indexes of aggregate weekly hours of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

(1977=100)

Industry	Not seasonally adjusted				Seasonally adjusted					
	Dec. 1987	Oct. 1988	Nov. 1988p/	Dec. 1988p/	Dec. 1987	Aug. 1988	Sept. 1988	Oct. 1988	Nov. 1988p/	Dec. 1988p/
Total private	124.1	128.5	127.7	128.7	122.5	125.5	126.0	127.1	127.0	127.1
Goods-producing industries	102.4	106.7	105.8	104.9	101.3	102.8	103.1	104.0	104.4	103.7
Mining	86.1	84.8	82.4	82.5	84.0	83.5	82.8	83.5	88.7	80.5
Construction	134.2	157.6	148.8	140.4	137.7	142.5	143.4	145.5	147.2	144.1
Manufacturing	97.0	97.9	98.5	99.1	95.8	96.0	96.3	96.9	97.2	97.8
Durable goods	96.9	95.9	96.8	97.9	92.5	94.2	94.6	95.2	95.6	95.4
Lumber and wood products	102.5	107.2	106.5	104.8	103.7	102.5	101.7	104.8	104.7	106.2
Furniture and fixtures	119.1	117.5	117.4	119.9	114.8	112.8	114.2	114.2	114.8	114.4
Stone, clay, and glass products	86.7	91.0	90.0	86.9	88.3	87.5	87.5	88.5	89.1	88.6
Primary metal industries	67.8	69.4	70.2	71.0	66.6	68.7	69.7	70.1	70.0	69.7
Blast furnaces and basic steel products	54.3	54.1	54.6	55.2	54.1	54.8	55.0	55.1	54.8	54.5
Fabricated metal products	93.5	94.6	95.8	96.8	90.7	92.6	93.1	93.6	94.4	94.2
Machinery, except electrical	91.8	93.6	94.6	97.2	89.3	92.6	93.2	93.7	94.2	94.6
Electrical and electronic equipment	105.2	103.9	105.5	106.3	101.8	102.8	103.1	103.4	103.7	102.8
Transportation equipment	101.4	100.5	103.0	104.8	97.1	99.9	100.2	100.7	101.1	100.3
Motor vehicles and equipment	89.4	91.9	94.4	96.3	84.6	90.9	91.4	91.9	93.2	91.1
Instruments and related products	107.8	108.6	109.8	112.0	103.9	107.7	107.9	109.5	108.5	108.8
Miscellaneous manufacturing	84.6	87.0	87.5	85.6	83.6	84.2	84.2	83.1	83.9	84.4
Nondurable goods	100.2	100.8	101.1	100.8	98.7	98.7	98.7	99.4	99.7	99.3
Food and kindred products	101.9	106.7	105.5	103.2	101.3	100.2	100.1	102.7	103.3	102.5
Tobacco manufactures	81.9	79.7	76.8	74.5	74.4	72.0	69.1	69.7	72.7	68.7
Textile mill products	83.8	81.1	81.4	81.6	82.5	79.9	80.6	80.2	80.2	80.2
Apparel and other textile products	86.9	85.4	86.4	85.7	85.9	83.9	84.5	83.9	84.9	84.6
Paper and allied products	103.5	101.8	102.2	103.8	101.2	101.9	101.4	101.3	101.0	100.6
Printing and publishing	137.4	137.9	139.0	140.4	133.7	137.0	137.5	137.6	137.2	137.0
Chemicals and allied products	98.3	98.9	99.5	100.2	97.4	98.7	98.4	99.7	99.3	99.2
Petroleum and coal products	84.9	88.2	86.1	83.2	84.3	86.6	86.1	87.3	86.1	84.9
Rubber and misc. plastics products	122.8	125.4	127.1	128.1	120.1	124.2	123.9	124.7	125.8	125.5
Leather and leather products	58.1	57.2	56.9	56.5	57.0	56.0	55.8	56.4	55.8	55.7
Service-producing industries	136.2	140.3	139.8	141.9	134.2	138.1	138.7	139.9	139.6	140.0
Transportation and public utilities	112.3	116.7	116.2	117.0	111.0	114.5	116.6	115.0	115.2	115.6
Wholesale trade	122.3	128.6	127.8	129.1	121.3	125.4	126.9	127.4	127.6	128.3
Retail trade	128.9	127.3	128.0	132.9	122.2	126.2	125.7	127.2	126.6	126.4
Finance, insurance, and real estate	140.0	140.9	139.8	140.4	139.6	140.0	140.6	141.2	140.4	139.8
Services	154.5	163.7	162.4	163.1	155.6	160.7	162.0	163.5	163.2	164.5

1/ See footnote 1, table B-2.

p = preliminary.

Table B-6. Indexes of diffusion: Percent of industries in which employment1/ increased

Time span	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span:												
1986	57.0	47.3	49.5	58.8	51.9	46.8	51.9	54.1	51.4	53.0	58.9	58.9
1987	58.8	59.2	61.1	62.4	62.4	61.4	70.8	62.2	68.1	67.3	67.8	68.4
1988	61.6	61.6	62.2	63.8	58.1	68.9	61.4	51.9	49.5	62.4	p/71.1	p/63.2
Over 3-month span:												
1986	58.8	47.6	45.7	46.2	46.2	46.2	48.1	51.9	50.5	55.9	59.7	59.2
1987	57.6	57.0	65.1	69.2	68.1	71.9	73.8	76.8	74.1	76.5	78.1	75.8
1988	71.6	66.8	67.0	66.8	71.4	69.7	68.4	57.3	57.8	p/66.2	p/74.3	
Over 6-month span:												
1986	48.1	47.3	43.8	42.7	43.2	47.8	46.5	50.9	55.9	53.2	55.9	58.4
1987	64.6	64.3	63.8	70.3	72.4	77.3	78.4	79.7	82.7	77.8	77.8	76.5
1988	73.5	70.3	70.3	73.8	70.5	68.4	64.9	p/72.4	p/71.1			
Over 12-month span:												
1986	42.2	41.6	43.8	44.9	45.7	48.6	46.8	48.6	51.6	53.8	56.5	57.8
1987	63.8	67.3	69.3	73.5	76.8	76.8	78.9	78.9	79.7	78.4	77.8	81.9
1988	77.6	77.6	73.5	74.3	p/76.2	p/73.5						

1/ Number of employees, seasonally adjusted, for 1, 3, and 6 month spans, on the payrolls of 185 private nonagricultural industries. Data for the 12-month span are unadjusted.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. Beginning with next month's release, the index shown in this table will be replaced by a broader-based index covering 348 private nonagricultural industries and a separate manufacturing index covering 134 industries.

p=preliminary.

Representative HAMILTON. Thank you very much. We will begin the questions with Congressman Hawkins.

Representative HAWKINS. Thank you, Mr. Chairman. May I request that my written opening statement be entered in the record at this point? It is a basic one which I would like to address a few questions to.

Representative HAMILTON. Without objection, it is so ordered.

[The written opening statement follows:]

WRITTEN OPENING STATEMENT OF REPRESENTATIVE HAWKINS

I would like to join in welcoming you at the start of another Congress. Your appearance here is always the occasion to remind us of the importance of the work of the Bureau of Labor Statistics and the other federal statistical agencies on whom we rely. Since this is the beginning of a new Congress, I would like to take a little time to catch up on your efforts to improve the Labor force data that we use.

1. What steps is BLS taking to increase the accuracy of the unemployment statistics that you report here?

2. How are you going to improve the accuracy and detail of the data you report for the disadvantaged people in our society, minorities and those who are living outside of households?

3. I am particularly concerned that we improve the data that we have about the occupations and wages of people from these groups. What steps are you taking to improve this data?

4. What steps would be needed to increase the amount of detail that you report in the Labor Force survey so that we could have better local area unemployment statistics and more information about the unemployment of Blacks and Hispanics?

5. What effect does the census undercount have on your unemployment estimates?

Representative HAWKINS. Mrs. Norwood, again we join in welcoming you and your staff. I have heretofore submitted to you several questions which address what we generally refer to as the "undercount." It seems that statistically it may be misleading to rely on just the monthly unemployment rate discussion. It is of great importance in some areas, including my own, because if there is an undercount, obviously it affects many of the programs that rely on the unemployment rate as a basis upon which money is distributed. So its gets down to real nitty-gritty issues for some of us and actually seems to suggest that some areas may be cheated and treated unfairly.

The questions relate primarily to the accuracy of the unemployment statistics. In making such a statement, I do not in any way imply any responsibility of the Bureau that you represent or any of the staff of the Bureau in terms of that. There are some people who say if you are consistently inaccurate, then it doesn't make any difference because you have the same statistics to work with. Many individuals say that it was never intended that the rate would indicate the plight or the extent of suffering of the unemployed; that it would merely judge the trend rather than the amount of suffering.

But, be that as it may, it is a serious problem because it seems to suggest that in areas such as mine and others around the country and nationally, that poverty over the decade of the 1980's has risen. And people conclude that the unemployment rate has declined and, as a result of that in some committees, particularly my own House Education and Labor Committee, we are sometimes discouraged in trying to address the problem of employment and training, and programs of that nature, on the basis that there is no longer a need, or certainly a declining need for such programs. And it does affect policy.

So I address these questions, and I can consolidate many of them. First of all, what steps are being taken to increase the accuracy of the statistics that you report to us each month, and whether or not you have any tale to report about the extent of the disadvantaged people in our society who in effect are reflected in these statistics or maybe not reflected?

The homeless, for example, in an area such as mine, where you report that we have more individuals living in alley ways than we have on the front of the street. Among Latinos, Hispanics, the doubling up in a household is a very common practice. I am confident from personal observation that many of these individuals are not reached.

I am also familiar with the fact that there is a seriously low participation rate of black males. Apparently some individuals find it difficult to go to some ghettos and count people because of the mobility of the situation, their style of living. I don't know to what extent that is recognized.

We also have a serious problem included in one paragraph in the statement which I have just read, of part-time individuals who are seeking full-time work and do not find it, and the discouraged, who are counted but not included in the rate. An individual is counted as employed regardless of that person's income. So we have perhaps millions who are not earning anything but a very low wage

but who still are counted the same as Members of Congress are counted as being employed, et cetera.

These are some of the problems that are very sticky. I am wondering to what extent you are moving to make some correction in them to at least report them in the rate, even though it may not be included in the single rate upon which the public depends for determining whether or not we are improving or whether or not we aren't.

These are the general questions about which I have great concern, and I wondered whether or not you are moving in any way to improve the reporting in such a way that it will reflect to the American public and policymakers the true extent of the situation.

Mrs. NORWOOD. You have raised a number of very interesting questions that we have given a lot of attention to and are continuing to address. I think the issues can be broken down into perhaps three categories.

The first, as you indicate, is the undercount, the undercount primarily of minorities, especially of black men that comes from the census itself, and then is reflected in all of the Government's household surveys. There are also special conditions like homelessness that may cause people to be outside of the households from whom we collect data.

Obviously, the important thing is to get the correct count. A great deal of effort is going into the improvement of these data primarily by the Census Bureau. We have a very real interest in that and have been working with them to help them in any way that we can.

I think that their attempts to identify the number of people who are homeless in the 1990 census will be a great improvement over anything that was done before. We can submit for the record a statement of some of the things that are going on there, if you wish.

Insofar as people who are in shelters, the homeless who are in shelters, those people are really part of the universe from which the current population survey is sampled. We are concerned about the undercounting and we continue to monitor developments.

The second area gets into issues related to the quality of the data that we report, which directly involves the quality of the response itself. There we have undertaken some rather innovative work. We have established a new data collection procedures laboratory at the Bureau, using some interdisciplinary techniques.

We have brought in and will continue to bring in groups of unemployed workers as well as employed people and administer the questionnaire to them. Then, using protocol and other kinds of techniques such as those used by sociologists and social psychologists we try to find out whether people really understand what we are asking them and whether their concept of job search is consistent with our definition.

All of that should, we hope, culminate in a complete redesign of the questionnaire that will be used in the current population survey of the future. We are beginning steps toward the next redesign which will go into effect after the 1990 census somewhere in the middle of the next decade.

There is a third area that is I think very troubling, and I know that it troubles you, too, because you and I have had some discussions about this before. That is, of course, the conceptual area.

What we often tend to do, I think, is to assume that unemployment is the same thing as economic hardship. And it isn't. There are a number of people in this country who are not unemployed but are working at low wages or only part time. They may suffer considerable economic hardship, but they don't report that they are unemployed because they, in fact, have jobs.

There are others who are not reporting job search for a variety of reasons. For example, we have recently arranged with the Census Bureau to do a special census of one of the Indian reservations, because Native Americans at least on reservations, don't seem to be reporting much unemployment. This is an important issue and it affects many of the programs that allocate funds on the basis of unemployment.

A couple of people from Tom Plewes' staff went out there to observe the survey. We don't know what the results will be yet, but clearly people are not going to look for work if there isn't any there.

We very often find that there is a continuum between a clear attachment to the labor force, and a more tenuous attachment. My feeling is that the way to improve our understanding of that is not through the current population survey—though we are trying to do everything we can with these measures to improve their accuracy, particularly through the redesign that we with the Census Bureau are beginning to undertake—but rather to try to develop a quick response capability within the Bureau of Labor Statistics to do small-scale, very quick surveys on particular issues related to the kinds of policy questions that you and others in Congress have raised. There may be questions that we could ask, for example, of persons living in rural areas which would be more appropriate for their situation and better determine whether they are suffering economic distress.

Our drug testing survey that I mentioned earlier is one example of a quick response survey. We were able to plan that, to do the data collection, to do the processing of it, and to get it out in a very short time, a matter of months rather than years.

My belief is that we really need to have a variety of different vehicles to get at some of these very basic questions that you raise.

Representative HAWKINS. I think you have responded very well to the question.

Let me add this. There are some specific components of the problem that obviously require additional studies. You indicated a desire to do something along that line.

May I ask you, do you have staff available that could, let's say if we divided subject matter up into separate components for future study, let's say a study on those that are classified as discouraged workers, for example, those that were counted even though they may not be earning sufficient compensation to really be counted as full-time employed individuals? Would you have the capability, let's say in conjunction with this committee representing the Congress, to do those studies if we were to ask you to do them separately rather than in a generic sense, to say, look, we are going to

look into the accuracy of the unemployment statistics, which does not give us really too much specificity, but let's say we were to break it down to try to go into some individual studies of how you could improve it, I am wondering whether or not you have the capability of doing this in terms of personnel?

Mrs. NORWOOD. We obviously have some capability. It is a question of degree, I believe.

But there is another issue here that we are thinking about and trying to figure out how to address. We can do, fairly quickly, although with a strain on our resources, data collection that involves business establishments. We already have a universe from which we can select samples. We also have developed the technology in BLS to process that data very quickly.

What we still need to develop is the ability to do that same thing on the household side. Up until now, our approach has been to add supplemental questions to the current population survey. And unfortunately, for a variety of reasons, that takes a long leadtime and a very long processing time.

So what I would like very much to do—and that is clearly a resource question and we will have to look at that—is to try to develop the same kind of capability on the household survey side to do quick response capability surveys as we have on the establishment side.

Representative HAWKINS. At the next meeting of the committee, I hope to make some suggestions along that line to give us some thought. We will try to develop this as we go along.

Thank you, Mr. Chairman.

Representative HAMILTON. Mrs. Norwood, as you look back over 1988, what trends are significant to you in employment? What jumps out at you, if anything?

Mrs. NORWOOD. I think we have had pretty consistent and fairly strong employment growth, most of it in services.

I have been pleased to see that in the last 3 months, manufacturing has picked up. Still, manufacturing has recovered only about three-quarters of the jobs that were lost during the 1981–82 recession.

That may not be all bad because it means that we are being much more careful about increasing our productivity, using less labor to produce more. So that's one area.

The other kind of thing that at least to me is rather important is that, in aggregate, the labor market is doing extraordinarily well. But people don't live in an aggregate. People don't live in some area called the United States; they live in a particular place in a particular State.

Conditions vary from one area to another. We do have places in this country which are suffering economic distress, not as many as we had during periods of recession, but they are still there.

We also have some groups like the roughly 750,000 people who are unemployed for 6 months or more. In a period when we have a 5.3 percent unemployment rate, that seems a sticky number. It is a small enough number so that we should be able to deal with it, but clearly those people have some structural problems in dealing with the economy which need to be addressed.

Representative HAMILTON. There are 1.5 million people who have been out of work for more than 15 months, right?

Mrs. NORWOOD. Yes, 1.5 million have been jobless for 15 weeks or more.

Representative HAMILTON. There are 740,000 that have been out for 27 weeks or more. How does that number compare with other periods when we have had about the current level of unemployment?

Mrs. NORWOOD. Actually, they are roughly the same percentage of the labor force as in 1979.

Representative HAMILTON. Are you saying to us that in your view, the problem of long-term unemployment really cannot be solved by economic growth alone and that other measures are necessary?

Mrs. NORWOOD. Yes.

I believe that when you get to the economic situation we have now, we are seeing economic growth, and one absolute requirement is continued economic growth, but that by itself is not going to solve the problem of the people who live in areas where there isn't any work, who have grown up under conditions which make them feel that they don't even want to look for work. They may never have known anybody who has worked at a good job; they may have lived in a very discouraging environment, particularly the young people who may have never had any positive role models.

And also I am very concerned about the fact that, at least according to the Bureau of Labor Statistics' projections of the future, as we move toward the next century, the requirements for employment are increasingly going to be more education and more use of cognitive abilities. This is going to make it harder for those people at the bottom of the income scale who have had fewer of these advantages than people who are middle and upper class.

Representative HAMILTON. Do we have a labor shortage or a worker shortage in the United States today?

Mrs. NORWOOD. I am certain that some employers would argue that we do, and certainly in some areas it is very hard to find people.

Representative HAMILTON. Do you see it in your statistics?

Mrs. NORWOOD. I think that depends on how you define the labor shortage. It is clear that it is very hard to find people to work in fast food restaurants, some of our department stores, and so on. Nurses, for example; there is a clear shortage of nurses.

Representative HAMILTON. Is this a big problem for the American economy in the next decade, a shortage of workers? Are we going to be hearing, as politicians here in the Congress, from our constitutents more and more from employers, "I just can't find good people"?

I hear that a lot today in Indiana from employers. I hear it a lot more today than I did 5 years ago. Am I going to be hearing that a lot more 5 years from now than I am today?

Mrs. NORWOOD. I think you are. But I think there are three things that need to be looked at here. One is that the labor force is going to be growing more slowly. There are fewer young people who were born some years ago to grow up to labor force age. So there are going to be fewer entry-level people.

Representative HAMILTON. That is just the issue of demographics.

Mrs. NORWOOD. That is right. So that is one whole process.

As a result of that, particularly for the younger group who used to fill many of the jobs at the lower pay, there may be a labor shortage at the particular rate of pay that employers are willing to provide.

So one issue that needs to be looked at when you discuss a labor shortage is at what wage rate? If the wage rate is high enough, it may well be that there will be people out of the labor force who would be willing to come in. I don't know.

But I think that a large part, or at least some of the discussion that we are having now about shortages is that it is no longer as easy to hire part-time housewives and teenagers who did fill jobs at fairly low rates of pay.

Representative HAMILTON. If I may interrupt you, do you see anything that makes you think we are now entering a period of a wage-driven inflation?

Mrs. NORWOOD. Not yet. I know that economists are certainly looking for it. We don't see very much in our consumer and producer price programs. We are having a little more than 4 percent a year inflation, and I might point out that during the Nixon years that was considered enough to slap price controls on the economy. But we appear to have become rather used to this level of price increase.

But we don't see any real heating up that I think is necessary to worry about. On the wage side, for a variety of reasons—particularly the fact that the unions which tended to be the wage leaders had their greatest strength in the manufacturing area which has been under some pressure to increase competitiveness, and we have seen plant closings—we don't yet see in our major wage indicator, the employment cost index, any serious heating up, certainly not in wages and salaries.

There are increased costs of fringe benefits, particularly medical care, that are beginning to show up. But there doesn't seem to be a great deal of pressure there.

If I may just finish my comment, the third point I wanted to make is that I do think that shortages may occur in the future because we may well have a mismatch of people and jobs. The occupations that employers will want to find people for may be there, and the people with the training that is needed for those occupations may not.

That doesn't mean that there won't be enough workers. It may well mean that there are not enough workers who are trained in that area, and that means, it seems to me, that we have to pay a lot of attention to training for employment.

Representative HAMILTON. I will ask you a question I ought to know the answer to but I don't. What is your definition of unemployment?

Mrs. NORWOOD. There are three requirements. A person needs not to have worked at all during the survey week, not even for 1 hour.

Representative HAMILTON. So I have a part-time job and I work for 1 hour, I am counted as employed?

Mrs. NORWOOD. That is right.

Second, the person must be available for work, tell us that he or she is available for work.

Representative HAMILTON. What if somebody says, "Gee, I've tried hard; I've been looking around town for 2 years and I can't find any work"?

Mrs. NORWOOD. That is the third point. There must be some job search.

Representative HAMILTON. They have to be seeking a job.

Mrs. NORWOOD. Yes.

One of the things that we are testing in our laboratory is how do people interpret job search? What do they feel they have to do in order to say yes, they have engaged in job search? Just pick up the newspaper and look at the help wanted ads? Do they have to do something more?

I have found it rather encouraging that the people we have talked with thus far have felt rather strongly that they really do need to engage in some actual activity; that merely looking at the help wanted ads is not enough.

Representative HAMILTON. How about illegal aliens? Are they counted?

Mrs. NORWOOD. They are counted to the extent that they are in the households.

Representative HAMILTON. You don't distinguish between an illegal alien and an American citizen?

Mrs. NORWOOD. That is right.

Representative HAMILTON. You don't know whether they are a citizen or not?

Mrs. NORWOOD. That is correct. We couldn't do that because I think it would injure the survey terribly. We can't go in and say, "Are you here illegally?" They are not going to tell us that.

Representative HAMILTON. You don't make any distinction between a teenager in a family that doesn't have a job, and the father or mother that doesn't have a job?

Mrs. NORWOOD. Our definitions are based on activity, not family status. However, we do have a great deal of information from the survey about the relationship of people within the family, so that we know about people where the father or the mother are employed or unemployed and what is happening to the children.

We know about single-parent households. We know about dual-earner households. We know about minimum-wage households and their demographic characteristics.

Representative HAMILTON. The unemployment rate today is 5.3 percent. The unemployment rate in April was 5.3 percent.

Mrs. NORWOOD. Yes.

Representative HAMILTON. You have had very strong economic growth since April but the unemployment rate is no lower than it was in April. Why is that?

Why wouldn't it go down if we have had all this economic growth?

Mrs. NORWOOD. Because there have been more people entering the labor force. We have had 2 million over the last year.

Representative HAMILTON. They are the young people coming of age basically?

Mrs. NORWOOD. Primarily. They are also women and perhaps people who have dropped out of the labor force for one reason or another and have decided to come back in and look for work.

Representative HAMILTON. Now, the payroll survey records a lot more jobs since November 1982 than the household survey.

Why the discrepancy in those two surveys, and which one is better?

Mrs. NORWOOD. I don't know the reason for the discrepancy. We know some of the reasons but certainly not all of them.

Representative HAMILTON. Which one do you use for the unemployment rate?

Mrs. NORWOOD. The unemployment rate comes from the household survey which shows lower employment growth. There are differences from 1 month to the next because the household survey is much smaller—it is about 50,000 or 60,000 households—whereas the payroll survey is about 250,000 business establishments.

Representative HAMILTON. Which of the two is more significant to you?

Mrs. NORWOOD. I believe that the employment is—let me state that a little differently. I think that the payroll survey is probably overstating employment somewhat and that the household survey is understating it, but I think the truth is closer to the establishment survey.

Representative HAMILTON. The payroll survey?

Mrs. NORWOOD. Yes, the payroll survey. I think that is closer to the truth than is the household survey.

Mr. Plewes may disagree with me on that.

Mr. PLEWES. But we should also point out there is a difference in concept between the two surveys. The household survey counts the number of people. It is a worker concept.

The establishment survey counts the number of jobs. It is a payroll concept. And thus, if people have more than one job, as we see is happening now in the economy, we can have higher growth in the number of jobs and not a growth in number of workers.

That is perhaps one reason that we see this difference.

Mrs. NORWOOD. If someone, for example, has two part-time jobs, that person is counted once in the household survey and twice within the establishment survey.

Representative HAMILTON. In looking at the increase in the number of jobs, 60 percent of the new jobs this year were filled by adult women and 30 percent were filled by adult men.

Now, is it unusual for women to constitute that large a fraction of the new jobs? Is that the pattern or is that unusual?

Mrs. NORWOOD. The pattern has been for a larger growth in the labor force of women than of men.

Representative HAMILTON. How long has that been going on?

Mrs. NORWOOD. Oh, for several decades now.

Representative HAMILTON. Several decades?

Mrs. NORWOOD. Yes. Since the mid-1960's or so. And so you would expect that there would be more women finding employment than men.

Since the growth in employment has been primarily in the service-producing sector, we are finding more women in the service-producing than in the goods-producing sector. That is partly because of

the nature of the jobs, but I think it is also partly because that is where the jobs are as the women come into the labor force.

Representative HAMILTON. And while the unemployment rate fell, nonetheless there were increases in the unemployment rates for blacks and teenagers; right?

Mrs. NORWOOD. Those are very small changes from month to month and are really not statistically significant changes. Unfortunately, one needs to look at the unemployment rate for blacks over a period of some time because to be a significant change, it would need about a nine-tenth of a percentage point change. And for Hispanics, they are a much smaller group of the population.

So we really need to look at perhaps 6 months or a year of data to see where we are going with that.

Representative HAMILTON. Do you have any unemployment rate in your mind that will trigger inflation? I know we used to talk about 6 percent, didn't we at one point? What is it now do you think?

We could solve a lot of problems by redefining, you know.

Mrs. NORWOOD. That is correct.

I do remember something called the Humphrey-Hawkins 4 percent.

Representative HAWKINS. If I may, that was simply an interim target, not a definition of full employment. A result of full employment would mean that every individual, not a percentage of unemployed individuals, would be in full employment.

But in order to get something which we thought would be accountable, to make someone accountable, we would use the interim 4 percent. But that has been blown out of the water now. Nobody even talks about it. They talk about 5 to 5.3 percent. I assume most would say that is full employment.

Mrs. NORWOOD. I think it depends on your definition, as you just said.

One definition often used, particularly during the period of high inflation that we had during the 1970's and the early 1980's, was and is a noninflationary unemployment rate. At what level does the unemployment rate have to be, how low can it get before additional overall macrostimulation of the economy will trigger more inflation?

And there I think most economists have brought their estimates upward and generally they talk about somewhere between 5 and 6 percent. But that is not full employment in the sense that everyone who wants a job will find it. We have people in the best times who have certain structural kinds of problems that are not going to be dealt with, at least in my view, with macroeconomic policy. Structural problems need specific targeted kinds of policies. So it really depends on what you are talking about.

Representative HAMILTON. Now, let me ask you with regard to the inflation rate, looking back over 1988, what stands out in your mind with respect to that?

Mrs. NORWOOD. Oil.

Representative HAMILTON. What?

Mrs. NORWOOD. Oil. Gasoline.

Representative HAMILTON. It has been low.

Mr. ARMKNECHT. It has been low. The all-item CPI so far this year has grown at an annual rate of 4.4 percent, which is about the same as last year.

However, the energy component has gone up at a very low rate of only nine-tenths percent, and energy commodities which are primarily driven by oil and gasoline have actually declined 1.2 percent this year. So that rate of inflation has been held down by the declining rate of change in oil and gasoline.

The rate of inflation if you exclude energy——

Representative HAMILTON. That is a major factor in the Consumer Price Index?

Mr. ARMKNECHT. Yes. If you exclude energy, the Consumer Price Index has been at a 4.8 percent rate of growth.

Representative HAMILTON. How about food? All last summer I kept hearing about the drought and how bad things were going to be on food prices. What happened?

Mrs. NORWOOD. We really did not have the kind of effects from the drought that a lot of people suggested we were going to have.

Representative HAMILTON. Did we feel any impact from the drought?

Mrs. NORWOOD. Some.

Mr. ARMKNECHT. The rate of change for food in 1987 was 3.5 percent, and this year it increased to about 5.2 percent. So it does look like there was the effect of the drought driving up food prices.

Mrs. NORWOOD. The movement in the price of energy is what drove everything up in the 1970's certainly, starting with the oil embargo. And then in the late 1970's, early 1980, we had a big increase in food prices.

Food prices are very difficult to control. You can't control the existence of drought or some terrible storms which drive the price of food products up.

So it is really all these other things, excluding food and energy, that you can look at to find out where we are. Nevertheless, the individual who is going out to buy gasoline to get to work has to pay the higher price.

Representative HAMILTON. If OPEC is successful in limiting production, will it have an immediate impact? Will we notice that right away in the inflation index?

Mrs. NORWOOD. Yes, I think so.

Representative HAMILTON. That will have a quick impact?

Mrs. NORWOOD. Yes, fairly quick.

Representative HAMILTON. Now, we have had fairly good manufacturing productivity, haven't we?

Mrs. NORWOOD. Yes.

Representative HAMILTON. Not so good in the rest of the nonfarm business sector. Why is that?

A preliminary question: Are the measurements equally good for manufacturing and nonfarm business sectors?

Mrs. NORWOOD. Let me answer that really in two different ways. It is much easier to measure the output of some physical product like a steel pipe than it is to measure the output in services which is often a whole bundle of different kinds of things.

You can count the transactions in a bank, for example. That is a very good measure of output. But it doesn't take account of the fact

that when I run out of cash, I can go down to the corner and use my bank card to get cash out very rapidly. So there are some difficulties, I think, in defining the specific measure of output.

On the other hand, the statistical system has been working with this for many, many years and the definitions have not changed a great deal.

The other point that I think ought to be made is that in manufacturing, of course, we are seeing a lot less job growth than we are seeing in services.

Representative HAMILTON. If you have rapid growth in productivity in the manufacturing sector, shouldn't you therefore have lower prices in manufacturing?

Mrs. NORWOOD. Prices are dependent in part on labor costs, and certainly unit labor costs have been very restrained in manufacturing.

If you look at our producer price data, we have not——

Representative HAMILTON. Unit labor costs would be coming down; right?

Mrs. NORWOOD. Yes.

Representative HAMILTON. Unit labor costs ought to be coming down. Cost of the product ought to come down, shouldn't it?

Mrs. NORWOOD. There are things like energy prices. There are capital costs.

Representative HAMILTON. Energy prices have been pretty steady, I thought you said a moment ago.

Mrs. NORWOOD. Yes, in the last year or so. We have not seen a heating up in the rate of inflation in——

Representative HAMILTON. But you haven't seen lower prices either, have you, in manufactured goods?

Mrs. NORWOOD. We have seen a little bit, not a lot. It depends. The important thing, I think, is that it is clear that employers have been trying to regain competitiveness by at least holding the line on prices.

Representative HAMILTON. Let me ask a few questions about statistical policy. I would like to get your assessment of the problems facing the Federal statistical agencies and the prospects for improvement.

What is the general situation on statistics?

Mrs. NORWOOD. That is a tall order, Mr. Chairman.

Let me say that I think the statistical system is in fairly good shape, but——

Representative HAMILTON. Is it better today than it was a decade ago, or 5 years ago, or 2 years ago? I mean are we constantly improving or is it getting worse? What is the direction, better or worse?

Mrs. NORWOOD. I think the direction of quality of what we do tends to be improving. We are doing less. That is one thing. We are doing less. That is, we produce fewer indicators. At least we have in the Bureau of Labor Statistics.

Representative HAMILTON. Is that good or bad?

Mrs. NORWOOD. It depends on what the product is. I think some of these, at least the things that we have eliminated, were things we felt were poor quality.

Representative HAMILTON. You have eliminated those because of budgetary pressures?

Mrs. NORWOOD. Yes. And I selected those because I thought they were not of good enough quality and that a considerable infusion of resources would be needed to improve them.

Representative HAMILTON. Are you getting complaints from the professional economists in the country that the statistics are not as good as they used to be, or not as many as they used to be, quantity or quality?

Mrs. NORWOOD. I think that professional economists tend to be more interested in their models than in the data that they use to estimate them. And I say that as an economist, so I should be careful. Nevertheless, the economists have been concerned.

Let me say there are two other points. One, at least in the areas in which we at our Bureau work and many others of the statistical agencies, the problem is that the economy and social and economic conditions that we measure keep changing.

Take, for example, the Consumer Price Index. We used to measure telephone rates, telephone bills for consumers by collecting data from AT&T and its subsidiaries. Then we had a change in the whole structure of the telephone industry and we could have gone along and done the same thing and been completely out of date or out of touch with reality. We didn't.

What we did was to work very fast to try to divert resources from one program in the CPI to another, to try to represent what is actually happening. And that keeps going on all the time.

Congressman Hawkins has raised questions about the concepts that are used. A good deal of thought and work needs to be done in that area. All statistical agencies are paying a great deal of attention to the use of new technology which may free up resources for other things and improve the quality.

And the last point that I have to make is the problem of people. It is getting increasingly difficult to attract the kind of bright young people to make careers in government today.

Representative HAMILTON. Have to have a big pay raise, is that right?

Mrs. NORWOOD. I am not getting into pay raises at the top levels. What I am more concerned about right now is that even when we attract bright young people, we lose them very rapidly.

Representative HAMILTON. Why do you lose them?

Mrs. NORWOOD. Young Ph.D.'s—and we hire people as economists, quantitative economists, statisticians, and systems people——

Representative HAMILTON. Why do you lose them?

Mrs. NORWOOD. Because they can earn a lot more money elsewhere. Even a young assistant professor in a university can do better than at the Bureau of Labor Statistics. And that is at the middle grade, at the lower grade levels, we are having a lot more trouble.

It is also partly due, I think, to the atmosphere, the status or lack thereof of working for the Government.

Representative HAMILTON. I don't know that I have, and I want to get from you, a sense of how you think we are moving on statis-

tical information. Are you pleased that the quality of information is being improved, or are you worried about that?

Mrs. NORWOOD. I am worried about it.

Representative HAMILTON. You are worried about it?

Mrs. NORWOOD. Yes, I am worried about it.

Representative HAMILTON. You take a figure like the unemployment rate. That figure is politically explosive; right? And if it is not an accurate figure, then politicians are getting worked up about inaccurate information.

Mrs. NORWOOD. That is right.

Representative HAMILTON. And the Consumer Price Index, the same way.

Mrs. NORWOOD. That is true.

Now, for our major indicators, I think everybody recognizes everywhere that work needs to be done on those things, and we are doing them. We just completed a couple of years ago a complete revision of the Consumer Price Index. We have underway a planning process for the next redesign of the current population survey.

We have a modernization program underway for our business establishment program.

Representative HAMILTON. Do the statistical agencies of the Government get the information out, the results out, timely?

Mrs. NORWOOD. I can speak only for the Bureau of Labor Statistics. We have what I consider to be a unique record. We get our major indicators out within 3 weeks of the reference date—the Consumer Price Index, the Producer Price Index, and the unemployment rate.

We get our employment cost index out by the end of the first month following the quarter to which it relates.

Representative HAMILTON. So in your Bureau it seems to be quite timely; right?

Mrs. NORWOOD. I think we are doing work in a very timely way.

Representative HAMILTON. Is that true generally in the Government, do you think?

Mrs. NORWOOD. Not always; no.

Representative HAMILTON. Generally late?

Mrs. NORWOOD. Statistical programs take a long time, and one needs to have very modern processing facilities to get the data out very quickly. We have been able to do a good deal in that area. Other agencies are trying their best to do that.

As I indicated earlier, I feel very strongly that, for example, the Secretary of Labor was interested in a child care survey. We were able to mount and do and issue a survey on employers' provision of child care very rapidly. We ought to be able to do that and have that kind of capability within our Bureau.

But it takes a lot of doing and there are problems, of course, as we move—all of us, the whole government—into necessary periods of budget restraint.

Representative HAMILTON. I think we have a high regard, those in the Congress, for your Bureau and for the professionalism that you bring to the task.

You know, one of the interests of the Joint Economic Committee has always been the quality of government statistics. You are right at the center of that. You are at the heart of it, and we would at

all times welcome your suggestions as to how they ought to be improved.

We, at least those of us who are members of the committee, don't really work with the raw statistical data and it is hard for us to make judgments on those things.

Mrs. NORWOOD. Thank you.

Representative HAMILTON. Do you have anything else, Congressman Hawkins?

Representative HAWKINS. Yes, just one question, which has been prompted somewhat by the line of questioning on the quality of statistics.

It seems to me the interpretations of statistics certainly leaves a lot be desired, and I don't blame you for that. Politicians obviously have a tendency to use statistics as one benefits from them.

But the thing I want to ask was this. All of the talk about the miracle in job creation, the great increase in the number of jobs, you referred to one statistic about the great increases among women in relationship to the increase to males.

Is it not true that there has been a tremendous increase in the number of jobs, but this does not necessarily mean that the total payroll itself has been increased? I was going to ask you whether or not there would be some way that we could develop a statistic that would compare the number of jobs with the total payroll to indicate whether or not the total improvement of the economy has been effected.

I think, to illustrate it, I have one family that I know of where the head of the family worked in the automobile industry and earned somewhere in the neighborhood of $20 to $25 an hour. That individual is now in a service job, making about $6.50. The mother in the family has had to go to work. That increased the number of jobs in the family, doubled the number of jobs. And the adolescent child dependent works in a fast food place because the father no longer can send that child to school without that child trying to supplement the family income.

Now, you have three individuals where the typical family of, say, 15 or 20 years ago would have been a main breadwinner, generally a man, and the mother would be staying at home to take care of the children, performing the necessary functions, and the child would be supported and encouraged to go to school.

Now, there you have three, you have increased the number of jobs, but you haven't necessarily helped the family out. And if you add this up throughout the economy, you have a different situation.

It would seem to me that there should be some way of comparing the number of jobs, which is just a numerical increase. It doesn't really mean too much in terms of whether or not we are better off or worse off, or whether or not in trade or commerce or even in national defense we have improved ourselves at all competitively.

But it is misleading when we simply look at the number of jobs and say, "Look, there has been this great job miracle that has taken place," when really the reverse has taken place.

Would there be any way of reducing this statistically to something that would be helpful in policymaking?

Mrs. NORWOOD. I don't think there is a way to reduce it to a single number. There are a great deal of data available to look at this in many different ways. I believe that perhaps the most important thing that is lacking is sufficient information from our labor force survey that can be looked at in a longitudinal manner so that we can follow people through time and see what has actually happened to them.

What we get now is a cross section at some point in time, and every month we can compare some cross section to another. What we are not seeing sufficiently, what we don't have sufficiently is the ability to trace those individuals through their life cycle of employment. And we are working on that. We are looking at possibilities to improve those capabilities from the current population survey as a part of the redesign.

In addition, because of the big shift that has been occurring for many years in the economy from goods producing, particularly manufacturing, toward services, every other year we have been conducting a special survey on workers who are displaced from their jobs because of a plant closing down or the eliminating of a shift.

We found in the most recent survey that there were slightly less than 5 million people who were affected. That is fewer than there have been in the two previous surveys. We also found that many of those displaced—almost three-quarters of them, had found new jobs and that, depending on whether you want to look at it as the glass half full or the glass half empty.

Representative HAWKINS. That depends on what point of view you want. I look at it in a different way, I think, from the way the Bureau seems to have interpreted that, and I think we have discussed this before.

Of the tremendous number—as I recall offhand, it was something like 30 or 35 percent who are actually earning much less, substantially less, or are unemployed, which is a tremendous number.

Mrs. NORWOOD. Nearly three-quarters of these people, the 4.7 million, about 71 or 72 percent have become reemployed. Some people have left the labor force, and there are about 14 percent who are unemployed.

Then, of the group, the 71 percent who have found work, about 44 percent of them have found jobs that are paying them less than they had before. That is one way of looking at it.

Another way of looking at this situation is to say what are the kinds of new jobs that are added? What is—really more correct to say—the increase in employment? What kinds of jobs are they? Well, a large proportion of them are professional and technical jobs. They have in the past tended to pay more money per job than some of the others, and many of them are full-time jobs.

On the other hand, we have 15 million people in this country who are working part time because they want to work part time. They are obviously earning less money. And we have 5 million people who are working part time who don't want to work part time, but can't find full-time jobs.

So the problem really is how to put all of this together, and we are working on that but I am not very sanguine that we are going to find a solution very quickly.

Representative HAWKINS. Thank you.

Thank you, Mr. Chairman.

Representative HAMILTON. Two quick questions.

One, you do not see any early warning signs of a coming increase in inflation; is that your position?

Mrs. NORWOOD. I don't see any elements that are suggesting that we need to be concerned this month or next month. I do believe that the rate of inflation that we are having and that we have become used to is fairly high. That is a different matter.

Representative HAMILTON. The Fed obviously is concerned about it. They have been pushing rates up; right?

Mrs. NORWOOD. Yes.

Representative HAMILTON. Are they doing that because of their dissatisfaction with the current rate, or are they doing it because they see on the horizon a further increase in inflation coming, or are they doing it for both reasons?

Mrs. NORWOOD. I think that there are a lot of different ways of looking at this, and I think that what I was responding to you about was what you see in our price statistics.

What I think the Fed is looking at, as they ought to be looking at, is how fast is the economy expanding? If the economy continues to expand at 300,000 jobs a month, for example, as it had been for quite a while, then I think we would have to be very concerned about rising inflation.

Representative HAWKINS. I don't know when we talk about inflation we always seem to blame it on the number of jobs, the jobs increasing, the job rates going down, wages going down actually. But no one ever blames the Federal Reserve Board for increasing the interest rates which obviously work their way into the economy and increase the price of goods and services always, and yet we seem to ignore that.

The cost of money is always ruled out and the poor working stiff is the one who catches hell.

Would you tend to go along, or would you tend to say that there are various factors that may be responsible for inflation, of which wages obviously would be one of them, that wages currently offer no great threat, and we don't seem to be moving to an overheated economy as seems to be suggested by the Federal Reserve Board?

Nobody ever talks about the tremendous amount that we are paying out in excessive interest rates.

Mrs. NORWOOD. I think you are getting at the other question, which is, of course, the deficit. Deficit financing can be very inflationary.

Representative HAMILTON. Finally, let me just ask you this. If you go to a senior citizens meeting today, almost invariably the question will come up that the Consumer Price Index is not fair to the senior citizen because the Consumer Price Index is geared to the family of four or some average family.

Mrs. NORWOOD. The average family, which is not the family of four.

Representative HAMILTON. Whatever it is.

Has the senior citizen got a legitimate beef there?

Mrs. NORWOOD. The Consumer Price Index does not measure the specific out-of-pocket expenses of senior citizens. If we had an index that did that, would it be very different from the index for the average?

The answer is that we are not sure about that. We do know that medical care costs would be higher, depending on how we treated Medicare insurance, catastrophic health insurance, and so on.

We also know that there are some expenditures that have been pushing things upward or downward, like food and energy costs, and some housing costs, which would be much lower.

So we have done a great deal of work in this area. We have issued a report on a pilot experimental kind of index that just reweighted the CPI. The Congress has asked us to consider what it might take to develop such an index.

Representative HAMILTON. You are looking at the possibility?

Mrs. NORWOOD. Well, we are looking at what would need to be done. But I think it should be understood that it would cost a great deal of money to do it and that when you got all through, it might not be very different.

When we looked at a reweighting with the expenditure experience of the elderly, depending upon whether you look at those 65 and over, 62 and over, those where households have the primary income coming from retirees, and you reweight with that, we find that some years there might be a point or two difference, but it is not as large as I think many people believe it is.

Representative HAMILTON. So what do I tell them?

Mrs. NORWOOD. I think that you tell them that the data suggest that Social Security recipients have been receiving more indexation than wage recipients and that——

Representative HAMILTON. And that the index is reasonably accurate for a senior citizen?

Mrs. NORWOOD. The index is accurate for the average. Certainly you can tell them that a special index could be created, but that it would cost a lot of money and it might therefore affect other government expenditures for the elderly.

Representative HAMILTON. Or run up the deficit.

OK. Thank you very much. We stand adjourned. We appreciate your being here.

[Whereupon, at 10:50 a.m., the committee adjourned, subject to the call of the Chair.]

EMPLOYMENT-UNEMPLOYMENT

FRIDAY, FEBRUARY 3, 1989

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m., in room 2359, Rayburn House Office Building, Hon. Lee H. Hamilton (chairman of the committee) presiding.

Present: Representatives Hamilton and Wylie; and Senators Bryan and Roth.

Also present: Joseph J. Minarik, executive director; and William Buechner and Christopher Frenze, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, CHAIRMAN

Representative HAMILTON. The meeting of the Joint Economic Committee will come to order.

This morning the Joint Economic Committee is meeting to examine the employment and unemployment figures for January 1989.

Our witness will be the Honorable Janet Norwood, Commissioner of the Bureau of Labor Statistics, and her colleagues.

In January the economy continued the strong job growth of last year. Payroll employment rose by 400,000 in January, including more than 45,000 new jobs in manufacturing, while the household survey reported an employment increase of over 700,000. All of the increase was in full-time jobs and most of the new jobs were in service-producing industries.

Average weekly hours also rose in January, which is another sign of strength in the economy.

It is interesting to note that even with the strong job growth in January the unemployment rate rose slightly to 5.4 percent and the number of people unemployed increased by 160,000. Teenagers, blacks, and Hispanics all reported increases in unemployment.

We are pleased to welcome for her monthly appearance Commissioner Norwood and turn to her now for her analysis of the January employment and unemployment figures.

STATEMENT OF HON. JANET L. NORWOOD, COMMISSIONER, BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, ACCOMPANIED BY KENNETH V. DALTON, ASSOCIATE COMMISSIONER, OFFICE OF PRICES AND LIVING CONDITIONS; AND THOMAS J. PLEWES, ASSOCIATE COMMISSIONER, OFFICE OF EMPLOYMENT AND UNEMPLOYMENT STATISTICS

Mrs. NORWOOD. Thank you very much, Mr. Chairman.

I have with me Mr. Dalton on my right, our price expert; and Mr. Plewes on my left, our employment-unemployment expert. We are all very pleased to be here.

Job growth was very strong in January, the labor force expanded, and unemployment was little changed. Both the overall and the civilian worker jobless rates were 5.4 percent, just about the same as in December. Our two major employment series each registered very large gains. The business survey showed an increase in nonfarm payroll employment of more than 400,000 after seasonal adjustment. And the household survey, which had grown much less over the last year than the payroll survey, had an even larger increase in total civilian employment—700,000.

January is a month in which many changes in the labor market occur, with the ending of the Christmas season and the setting in of cold weather. These large seasonal developments can sometimes make interpretation of the data difficult. Although the household survey's surprisingly large growth is, in part, a catch up for its relatively slow growth earlier, I believe that the labor market was very strong in January.

Supported by January's mild weather and an economy that continues to grow, many of the usual seasonal job reductions did not take place this year. Employment in the construction industry rose by a very large amount after seasonal adjustment—100,000. Factory jobs rose for the fourth month in a row, adding 45,000, split equally between durable and nondurable goods industries.

In the service-producing sector, retail trade showed a large seasonally adjusted employment increase—135,000—which was spread throughout the various types of stores in the industry. Smaller-than-usual job gains occurred in the services industry—75,000. The average monthly gain in that industry in 1988 was 110,000. Employment in business services, one of the fastest growing parts of the services industry, actually fell slightly in January, following a strong showing in December. Elsewhere, sizable increases occurred in transportation and in wholesale trade. Following several months of strong growth, the finance industry experienced a small loss of jobs.

The average workweek for the private nonfarm economy rose 0.2 hour in January to 34.9 hours. The factory workweek also rose in January, to 41 hours, and is above 43 hours in the auto and steel industries. This may mean that factory employers find it more efficient to maintain long workweeks rather than to expand employment.

As I mentioned earlier, the extraordinarily large employment change in the household survey was accompanied by an unusually large labor force increase. As a result, no improvement in unemployment occurred. Unemployment rates for adult men and women

showed little or no change from December, while the jobless rate for teenagers rose. The rate for black teenagers, which had improved considerably over the past few years, moved up above the 30-percent level in January—34.5 percent. Unemployment measures for this group are quite volatile, however, and we should not read very much into a single month's data.

Among part-time workers, the number who would have preferred full-time work fell, returning to November's level of 5.1 million. The count of those who chose to work part time—the voluntary part timers—remained at 15.4 million.

In summary, the labor market showed continued strength in January. Employment rose sharply after seasonal adjustment, and unemployment was little changed from 1988 yearend levels.

Mr. Chairman, I would like to inform the committee about a new series that we will be producing on import and export prices on a monthly basis for a small number of indexes. The new data will supplement the extensive information we publish each quarter and are being produced in order to enable the calculation of monthly merchandise trade data in constant dollar or real terms.

We are very proud of the work that we have done in this area and are pleased that we have brought this important project to completion so quickly. Later this month we will be issuing the first of those data and the Census Bureau will be using them subsequently to adjust the trade data so that we will have a better fix on what is happening to our trade balance.

[The table attached to Mrs. Norwood's statement, together with the Employment Situation press release, follows:]

Unemployment rates of all civilian workers by alternative seasonal adjustment methods

Month and year	Unadjusted rate	X-11 ARIMA method						X-11 method (official method before 1980)	Range (cols. 2-8)
		Official procedure	Concurrent (as first computed)	Concurrent (revised)	Stable	Total	Residual		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1988									
January.....	6.3	5.8	5.8	5.8	5.8	5.8	5.7	5.8	.1
February....	6.2	5.7	5.7	5.7	5.8	5.7	5.6	5.7	.2
March.....	5.9	5.6	5.6	5.6	5.7	5.6	5.5	5.6	.2
April.....	5.3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-
May.....	5.4	5.6	5.6	5.6	5.6	5.6	5.7	5.6	.1
June.....	5.5	5.4	5.4	5.4	5.3	5.4	5.4	5.3	.1
July.....	5.5	5.4	5.4	5.5	5.4	5.5	5.5	5.4	.1
August.....	5.4	5.6	5.6	5.6	5.5	5.6	5.6	5.6	.1
September...	5.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-
October.....	5.0	5.3	5.3	5.3	5.3	5.3	5.4	5.3	.1
November....	5.2	5.4	5.4	5.4	5.4	5.3	5.4	5.4	.1
December....	5.0	5.3	5.3	5.4	5.3	5.3	5.4	5.4	.1
1989									
January.....	6.0	5.4	5.4	5.4	5.5	5.4	5.3	5.5	.2

SOURCE: U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics
February 1989

(1) Unadjusted rate. Unemployment rate for all civilian workers, not seasonally adjusted.

(2) Official procedure (X-11 ARIMA method). The published seasonally adjusted rate for all civilian workers. Each of the 3 major civilian labor force components--agricultural employment, nonagricultural employment and unemployment--for 4 age-sex groups--males and females, ages 16-19 and 20 years and over--are seasonally adjusted independently using data from January 1974 forward. The data series for each of these 12 components are extended by a year at each end of the original series using ARIMA (Auto-Regressive, Integrated, Moving Average) models chosen specifically for each series. Each extended series is then seasonally adjusted with the X-11 portion of the X-11 ARIMA program. The 4 teenage unemployment and nonagricultural employment components are adjusted with the additive adjustment model, while the other components are adjusted with the multiplicative model. The unemployment rate is computed by summing the 4 seasonally adjusted unemployment components and calculating that total as a percent of the civilian labor force total derived by summing all 12 seasonally adjusted components. All the seasonally adjusted series are revised at the end of each year. Extrapolated factors for January-June are computed at the beginning of each year; extrapolated factors for July-December are computed in the middle of the year after the June data become available. Each set of 6-month factors are published in advance, in the January and July issues, respectively, of Employment and Earnings.

(3) Concurrent (as first computed, X-11 ARIMA method). The official procedure for computation of the rate for all civilian workers using the 12 components is followed except that extrapolated factors are not used at all. Each component is seasonally adjusted with the X-11 ARIMA program each month as the most recent data become available. Rates for each month of the current year are shown as first computed; they are revised only once each year, at the end of the year when data for the full year become available. For example, the rate for January 1984 would be based, during 1984, on the adjustment of data from the period January 1974 through January 1984.

(4) Concurrent (revised, X-11 ARIMA method). The procedure used is identical to (3) above, and the rate for the current month (the last month displayed) will always be the same in the two columns. However, all previous months are subject to revision each month based on the seasonal adjustment of all the components with data through the current month.

(5) Stable (X-11 ARIMA method). Each of the 12 civilian labor force components is extended using ARIMA models as in the official procedure and then run through the X-11 part of the program using the stable option. This option assumes that seasonal patterns are basically constant from year-to-year and computes final seasonal factors as unweighted averages of all the seasonal-irregular components for each month across the entire span of the period adjusted. As in the official procedure, factors are extrapolated in 6-month intervals and the series are revised at the end of each year. The procedure for computation of the rate from the seasonally adjusted components is also identical to the official procedure.

(6) Total (X-11 ARIMA method). This is one alternative aggregation procedure, in which total unemployment and civilian labor force levels are extended with ARIMA models and directly adjusted with multiplicative adjustment models in the X-11 part of the program. The rate is computed by taking seasonally adjusted total unemployment as a percent of seasonally adjusted total civilian labor force. Factors are extrapolated in 6-month intervals and the series revised at the end of each year.

(7) Residual (X-11 ARIMA method). This is another alternative aggregation method, in which total civilian employment and civilian labor force levels are extended using ARIMA models and then directly adjusted with multiplicative adjustment models. The seasonally adjusted unemployment level is derived by subtracting seasonally adjusted employment from seasonally adjusted labor force. The rate is then computed by taking the derived unemployment level as a percent of the labor force level. Factors are extrapolated in 6-month intervals and the series revised at the end of each year.

(8) X-11 method (official method before 1980). The method for computation of the official procedure is used except that the series are not extended with ARIMA models and the factors are projected in 12-month intervals. The standard X-11 program is used to perform the seasonal adjustment.

Methods of Adjustment: The X-11 ARIMA method was developed at Statistics Canada by the Seasonal Adjustment and Times Series Staff under the direction of Estela Bee Dagum. The method is described in The X-11 ARIMA Seasonal Adjustment Method, by Estela Bee Dagum, Statistics Canada Catalogue No. 12-564E, February 1980.

The standard X-11 method is described in X-11 Variant of the Census Method II Seasonal Adjustment Program, by Julius Shiskin, Allan Young and John Musgrave (Technical Paper No. 15, Bureau of the Census, 1967).

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United States Department of Labor
Bureau of Labor Statistics Washington, D.C. 20212

Technical information: (202) 523-1371
523-1944
523-1959
Media contact: 523-1913

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THE EMPLOYMENT SITUATION: JANUARY 1989

Employment rose substantially in January and unemployment was little changed, the Bureau of Labor Statistics of the U.S. Department of Labor reported today. Both the overall and the civilian worker jobless rates were 5.4 percent and have shown little movement in recent months.

The number of nonagricultural payroll jobs, as measured by the monthly survey of business establishments, increased by 410,000 in January, after seasonal adjustment. Total civilian employment derived from the survey of households, which has generally shown smaller gains than payroll employment over the past year, rose by 700,000.

Unemployment (Household Survey Data)

Both the level and the rate of unemployment were little changed in January, at 6.7 million and 5.4 percent, respectively, after seasonal adjustment. These measures have hovered near their present levels for the past several months. (See table A-2.)

Similarly, jobless rates for most major worker groups, including adult men (4.6 percent), adult women (4.7 percent), whites (4.6 percent), and blacks (12.0 percent), showed little or no movement from December. The rates for teenagers (16.4 percent) and Hispanics (8.4 percent) edged up over the month. (See tables A-2 and A-3.)

Both the mean and median duration of unemployment, at 12.7 and 5.7 weeks, respectively, were about unchanged from December. Persons jobless for 6 months or more, at about 750,000 in January, accounted for 11 percent of the unemployed total. (See table A-7.)

Civilian Employment and the Labor Force (Household Survey Data)

Civilian employment increased by 700,000 on a seasonally adjusted basis in January to a level of 116.7 million. This gain followed much smaller monthly increases during most of 1988. With the large January rise in employment, the employment-population ratio--the proportion of the working-age population that is working--rose to a record 62.9 percent. (See table A-2.)

The civilian labor force rose by 870,000 after seasonal adjustment to 123.4 million. As a result, the labor force participation rate also was at a record level--66.5 percent. (See table A-2.)

Industry Payroll Employment (Establishment Survey Data)

The number of nonagricultural payroll jobs rose by 410,000 in January, on a seasonally adjusted basis, to a level of 108.0 million. Employment growth occurred in both the goods- and service-producing sectors, with the largest gains in construction and retail trade. These two industries undergo very large seasonal movements from December to January, often resulting in erratic seasonally adjusted changes. (See table B-1.)

Table A. Major indicators of labor market activity, seasonally adjusted

Category	Quarterly averages		Monthly data			Dec.-Jan. change
	1988		1988		1989	
	III	IV	Nov.	Dec.	Jan.	
HOUSEHOLD DATA						
	Thousands of persons					
Labor force 1/.....	123,570	124,084	124,215	124,259	125,124	865
Total employment 1/..	116,892	117,539	117,652	117,705	118,407	702
Civilian labor force...	121,881	122,388	122,510	122,563	123,428	865
Civilian employment..	115,202	115,843	115,947	116,009	116,711	702
Unemployment.....	6,678	6,545	6,563	6,554	6,716	162
Not in labor force.....	62,959	62,865	62,734	62,839	62,216	-623
Discouraged workers..	941	951	N.A.	N.A.	N.A.	N.A.
	Percent of labor force					
Unemployment rates:						
All workers 1/.....	5.4	5.3	5.3	5.3	5.4	0.1
All civilian workers.	5.5	5.3	5.4	5.3	5.4	.1
Adult men.....	4.7	4.7	4.8	4.7	4.6	-.1
Adult women.....	4.9	4.7	4.7	4.7	4.7	0
Teenagers.....	15.3	14.6	14.1	14.8	16.4	1.6
White.....	4.8	4.6	4.6	4.6	4.6	0
Black.....	11.2	11.3	11.2	11.6	12.0	.4
Hispanic origin....	8.0	7.8	8.0	7.6	8.4	.8
ESTABLISHMENT DATA						
	Thousands of jobs					
Nonfarm employment.....	106,478	p107,344	107,419	p107,640	p108,048	p408
Goods-producing.....	25,650	p25,828	25,849	p25,892	p26,040	p148
Service-producing....	80,828	p81,516	81,570	p81,748	p82,008	p260
	Hours of work					
Average weekly hours:						
Total private.....	34.7	p34.8	34.8	p34.7	p34.9	p0.2
Manufacturing.....	41.1	p41.1	41.2	p40.9	p41.0	p.1
Overtime.....	3.9	p3.9	3.9	p3.9	p3.9	p0

1/ Includes the resident Armed Forces. N.A.=not available.
p=preliminary.

In the goods-producing sector, manufacturing posted its fourth consecutive monthly gain, adding 45,000 jobs. Growth was split between durable and nondurable goods industries, with increases in fabricated metals, motor vehicle equipment, food processing, and printing and publishing. Aided by unseasonably warm weather across much of the country, construction employment declined less than usual from December to January, increasing by 100,000 on a seasonally adjusted basis.

Among the service-producing industries, retail trade had the largest over-the-month increase--135,000, seasonally adjusted. Wholesale trade continued to exhibit strength, with the addition of 35,000 jobs. Transportation and public utilities employment rose by 45,000, with most of the gain in transportation. The services industry saw a modest employment increase of 75,000; the health services component rose by 35,000, while business services experienced a small decline. After increasing in the prior 4 months, finance lost nearly 10,000 jobs in January.

Weekly Hours (Establishment Survey Data)

The average workweek for production or nonsupervisory workers on private nonagricultural payrolls increased by 0.2 hour in January, seasonally adjusted, to 34.9 hours. The manufacturing workweek edged up 0.1 hour to 41.0 hours, and factory overtime remained at 3.9 hours. (See table B-2.)

The index of aggregate weekly hours of production or nonsupervisory workers on private nonagricultural payrolls, at 128.5 (1977=100), rose by 1.0 percent, after seasonal adjustment. The index for manufacturing increased by 0.7 percent to 97.3. (See table B-5.)

Hourly and Weekly Earnings (Establishment Survey Data)

Average hourly earnings of private production or nonsupervisory workers, which had shown relatively little change in the prior 2 months, climbed by 0.6 percent in January, seasonally adjusted. Average weekly earnings rose 1.2 percent. On an unadjusted basis, average hourly earnings increased by 9 cents to $9.55, while weekly earnings edged down 67 cents to $329.48. Over the year, both hourly and weekly earnings increased by about 4 percent. (See tables B-3 and B-4.)

The Employment Situation for February 1989 will be released on Friday, March 10, at 8:30 A.M. (EST).

Explanatory Note

This news release presents statistics from two major surveys, the Current Population Survey (household survey) and the Current Employment Statistics Survey (establishment survey). The household survey provides the information on the labor force, total employment, and unemployment that appears in the A tables, marked HOUSEHOLD DATA. It is a sample survey of about 55,800 households that is conducted by the Bureau of the Census with most of the findings analyzed and published by the Bureau of Labor Statistics (BLS).

The establishment survey provides the information on the employment, hours, and earnings of workers on nonagricultural payrolls that appears in the B tables, marked ESTABLISHMENT DATA. This information is collected from payroll records by BLS in cooperation with State agencies. The sample includes over 300,000 establishments employing over 38 million people.

For both surveys, the data for a given month are actually collected for and relate to a particular week. In the household survey, unless otherwise indicated, it is the calendar week that contains the 12th day of the month, which is called the survey week. In the establishment survey, the reference week is the pay period including the 12th, which may or may not correspond directly to the calendar week.

The data in this release are affected by a number of technical factors, including definitions, survey differences, seasonal adjustments, and the inevitable variance in results between a survey of a sample and a census of the entire population. Each of these factors is explained below.

Coverage, definitions, and differences between surveys

The sample households in the household survey are selected so as to reflect the entire civilian noninstitutional population 16 years of age and older. Each person in a household is classified as employed, unemployed, or not in the labor force. Those who hold more than one job are classified according to the job at which they worked the most hours.

People are classified as *employed* if they did any work at all as paid civilians; worked in their own business or profession or on their own farm; or worked 15 hours or more in an enterprise operated by a member of their family, whether they were paid or not. People are also counted as employed if they were on unpaid leave because of illness, bad weather, disputes between labor and management, or personal reasons. Members of the Armed Forces stationed in the United States are also included in the employed total.

People are classified as *unemployed*, regardless of their eligibility for unemployment benefits or public assistance, if they meet all of the following criteria: They had no employment during the survey week; they were available for work at that time; and they made specific efforts to find employment sometime during the prior 4 weeks. Persons laid off from their former jobs and awaiting recall and those expecting to report to a job within 30 days need not be looking for work to be counted as unemployed.

The *labor force* equals the sum of the number employed and the number unemployed. The *unemployment rate* is the percentage of unemployed people in the labor force (civilian plus the resident Armed Forces). Table A-5 presents a special grouping of seven measures of unemployment based on varying definitions of unemployment and the labor force. The definitions are provided in the table. The most restrictive definition yields U-1 and the most comprehensive yields U-7. The overall unemployment rate is U-5a, while U-5b represents the same measure with a civilian labor force base.

Unlike the household survey, the establishment survey only counts wage and salary employees whose names appear on the payroll records of nonagricultural firms. As a result, there are many differences between the two surveys, among which are the following:

— The household survey, although based on a smaller sample, reflects a larger segment of the population; the establishment survey excludes agriculture, the self-employed, unpaid family workers, private household workers, and members of the resident Armed Forces;

— The household survey includes people on unpaid leave among the employed; the establishment survey does not;

— The household survey is limited to those 16 years of age and older; the establishment survey is not limited by age;

— The household survey has no duplication of individuals, because each individual is counted only once; in the establishment survey, employees working at more than one job or otherwise appearing on more than one payroll would be counted separately for each appearance.

Other differences between the two surveys are described in "Comparing Employment Estimates from Household and Payroll Surveys," which may be obtained from the BLS upon request.

Seasonal adjustment

Over the course of a year, the size of the Nation's labor force and the levels of employment and unemployment undergo sharp fluctuations due to such seasonal events as changes in weather, reduced or expanded production, harvests, major holidays, and the opening and closing of schools. For example, the labor force increases by a large number each June, when schools close and many young people enter the job market. The effect of such seasonal variation can be very large; over the course of a year, for example, seasonality may account for as much as 95 percent of the month-to-month changes in unemployment.

Because these seasonal events follow a more or less regular pattern each year, their influence on statistical trends can be eliminated by adjusting the statistics from month to month. These adjustments make nonseasonal developments, such as declines in economic activity or increases in the participation of women in the labor force, easier to spot. To return to the school's-out example, the large number of people entering the labor force each June is likely to obscure any other changes that have taken place since May, making it difficult to determine if the level of economic activity has risen or declined. However, because the effect of students finishing school in previous years is known, the statistics for the current year can be adjusted to allow for a comparable change. Insofar as the seasonal adjustment is made correctly, the adjusted figure provides a more useful tool with which to analyze changes in economic activity.

Measures of labor force, employment, and unemployment contain components such as age and sex. Statistics for all employees, production workers, average weekly hours, and average hourly earnings include components based on the employer's industry. All these statistics can be seasonally adjusted either by adjusting the total or by adjusting each of the components and combining them. The second procedure usually yields more accurate information and is therefore followed by BLS. For example, the seasonally adjusted figure for the labor force is the sum of eight seasonally adjusted civilian employment components, plus the resident Armed Forces total (not adjusted for seasonality), and four seasonally adjusted unemployment components; the total for unemployment is the sum of the four unemployment components; and the overall unemployment rate is derived by dividing the resulting estimate of total unemployment by the estimate of the labor force.

The numerical factors used to make the seasonal adjustments are recalculated regularly. For the household survey, the factors are calculated for the January-June period and again for the July-December period. The January revision is applied to data that have been published over the previous 5 years. For the establishment survey, updated factors for seasonal adjustment are calculated only once a year, along with the introduction of new benchmarks which are discussed at the end of the next section.

Sampling variability

Statistics based on the household and establishment surveys are subject to sampling error, that is, the estimate of the number of people employed and the other estimates drawn from these surveys probably differ from the figures that would be obtained from a complete census, even if the same questionnaires and procedures were used. In the household survey, the amount of the differences can be expressed in terms of standard errors. The numerical value of a standard error depends upon the size of the sample, the results of the survey, and other factors. However, the numerical value is always such that the chances are approximately 68 out of 100 that an estimate based on the sample will differ by no more than the standard error from the results of a complete census. The chances are approximately 90 out of 100 that an estimate based on the sample will differ by no more than 1.6 times the standard error from the results of a complete census. At approximately the 90-percent level of confidence—the confidence limits used by BLS in its analyses—the error for the monthly change in total employment is on the order of plus or minus 358,000; for total unemployment it is 224,000; and, for the overall unemployment rate, it is 0.19 percentage point. These figures do not mean that the sample results are off by these magnitudes but, rather, that the chances are approximately 90 out of 100 that the "true" level or rate would not be expected to differ from the estimates by more than these amounts.

Sampling errors for monthly surveys are reduced when the data are cumulated for several months, such as quarterly or annually. Also, as a general rule, the smaller the estimate, the larger the sampling error. Therefore, relatively speaking, the estimate of the size of the labor force is subject to less error than is the estimate of the number unemployed. And, among the unemployed, the sampling error for the jobless rate of adult men, for example, is much smaller than is the error for the jobless rate of teenagers. Specifically, the error on monthly change in the jobless rate for men is .25 percentage point; for teenagers, it is 1.29 percentage points.

In the establishment survey, estimates for the 2 most current months are based on incomplete returns; for this reason, these estimates are labeled preliminary in the tables. When all the returns in the sample have been received, the estimates are revised. In other words, data for the month of September are published in preliminary form in October and November and in final form in December. To remove errors that build up over time, a comprehensive count of the employed is conducted each year. The results of this survey are used to establish new benchmarks—comprehensive counts of employment—against which month-to-month changes can be measured. The new benchmarks also incorporate changes in the classification of industries and allow for the formation of new establishments.

Additional statistics and other information

In order to provide a broad view of the Nation's employment situation, BLS regularly publishes a wide variety of data in this news release. More comprehensive statistics are contained in *Employment and Earnings*, published each month by BLS. It is available for $8.50 per issue or $25.00 per year from the U.S. Government Printing Office, Washington, DC 20204. A check or money order made out to the Superintendent of Documents must accompany all orders.

Employment and Earnings also provides approximations of the standard errors for the household survey data published in this release. For unemployment and other labor force categories, the standard errors appear in tables B through J of its "Explanatory Notes." Measures of the reliability of the data drawn from the establishment survey and the actual amounts of revision due to benchmark adjustments are provided in tables M, O, P, and Q of that publication.

HOUSEHOLD DATA

Table A-1. Employment status of the population, including Armed Forces in the United States, by sex

(Numbers in thousands)

Employment status and sex	Not seasonally adjusted			Seasonally adjusted					
	Jan. 1989	Dec. 1988	Jan. 1988	Jan. 1989	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
TOTAL									
Noninstitutional population[1]	186,571	187,096	187,340	186,571	186,986	186,801	186,949	187,096	187,340
Labor force[2]	121,491	123,810	123,791	122,784	123,986	123,778	124,216	124,259	125,124
Participation rate[3]	65.5	66.2	66.1	66.2	66.3	66.3	66.4	66.4	66.5
Total employed[4]	113,998	117,674	116,482	115,804	117,074	117,260	117,662	117,706	118,407
Employment-population ratio[5]	61.4	62.9	62.2	62.4	62.7	62.8	62.9	62.9	63.2
Resident Armed Forces	1,749	1,696	1,696	1,749	1,704	1,667	1,705	1,696	1,696
Civilian employed	112,139	115,979	114,786	114,055	115,370	115,573	115,947	116,009	116,711
Agriculture	2,799	2,870	2,831	3,256	3,179	3,236	3,236	3,193	3,300
Nonagricultural industries	109,360	113,108	111,955	110,799	112,194	112,336	112,709	112,816	113,411
Unemployed	7,503	6,142	7,309	6,980	6,914	6,918	6,863	6,554	6,716
Unemployment rate[6]	6.3	5.0	5.9	5.7	5.3	5.3	5.3	5.3	5.4
Not in labor force	64,079	63,286	63,549	63,787	62,979	63,023	62,734	62,839	62,216
Men, 16 years and over									
Noninstitutional population[1]	89,033	89,792	89,914	89,033	89,577	89,637	89,718	89,792	89,914
Labor force[2]	67,410	68,161	68,197	68,219	68,604	68,589	68,686	68,638	69,032
Participation rate[3]	75.7	75.9	75.8	76.6	76.6	76.5	76.6	76.4	76.8
Total employed[4]	63,046	64,845	63,944	64,420	65,015	64,979	65,074	65,055	65,322
Employment-population ratio[5]	70.8	72.0	71.1	72.4	72.6	72.5	72.5	72.5	72.6
Resident Armed Forces	1,566	1,534	1,532	1,566	1,540	1,526	1,542	1,534	1,532
Civilian employed	61,480	63,311	62,412	62,832	63,475	63,450	63,532	63,521	63,790
Unemployed	4,364	3,317	4,252	3,799	3,589	3,593	3,612	3,583	3,710
Unemployment rate[6]	6.5	5.2	6.2	5.6	5.2	5.2	5.3	5.2	5.4
Women, 16 years and over									
Noninstitutional population[1]	98,538	97,306	97,427	98,538	97,080	97,164	97,234	97,306	97,427
Labor force[2]	54,082	55,655	55,594	54,565	55,084	55,209	55,529	55,621	56,091
Participation rate[3]	56.0	57.2	57.1	56.5	56.7	56.8	57.1	57.2	57.6
Total employed[4]	50,842	53,029	52,538	51,384	52,058	52,284	52,578	52,650	53,085
Employment-population ratio[5]	52.7	54.5	53.9	53.2	53.6	53.8	54.1	54.1	54.5
Resident Armed Forces	181	162	164	181	164	161	163	162	164
Civilian employed	50,661	52,867	52,374	51,223	51,895	52,123	52,415	52,486	52,921
Unemployed	3,239	2,625	3,057	3,181	3,025	2,925	2,951	2,971	3,006
Unemployment rate[6]	6.0	4.7	5.5	5.8	5.5	5.3	5.3	5.3	5.4

[1] The population and Armed Forces figures are not adjusted for seasonal variation, therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employment as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

HOUSEHOLD DATA

Table A-2. Employment status of the civilian population by sex and age

(Numbers in thousands)

Employment status, sex, and age	Not seasonally adjusted			Seasonally adjusted					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
TOTAL									
Civilian noninstitutional population	183,822	185,403	185,644	183,822	184,962	185,114	185,744	185,403	185,644
Civilian labor force	119,742	122,126	122,095	121,035	121,984	122,091	122,510	122,583	123,428
Participation rate	65.1	65.9	65.8	65.8	66.0	66.0	66.1	66.1	66.5
Employed	112,139	115,978	114,786	114,055	115,370	115,573	115,947	116,009	116,711
Employment-population ratio[2]	61.0	62.6	61.8	62.0	62.4	62.4	62.6	62.6	62.9
Unemployed	7,603	6,142	7,309	6,980	6,614	6,518	6,563	6,554	6,716
Unemployment rate	6.3	5.0	6.0	5.8	5.4	5.3	5.4	5.3	5.4
Men, 20 years and over									
Civilian noninstitutional population	80,120	81,001	81,162	80,120	80,751	80,851	80,924	81,001	81,162
Civilian labor force	62,031	62,792	62,926	62,421	62,884	62,915	62,995	63,002	63,356
Participation rate	77.4	77.5	77.5	77.9	77.9	77.8	77.8	77.8	78.1
Employed	58,357	59,858	59,442	59,315	59,979	60,004	59,999	60,049	60,420
Employment-population ratio[2]	72.8	73.9	73.2	74.0	74.3	74.2	74.1	74.1	74.4
Agriculture	2,077	2,120	2,054	2,302	2,249	2,315	2,313	2,292	2,277
Nonagricultural industries	56,280	57,738	57,387	57,013	57,730	57,689	57,686	57,757	58,143
Unemployed	3,674	2,934	3,485	3,106	2,905	2,911	2,996	2,953	2,936
Unemployment rate	5.9	4.7	5.5	5.0	4.6	4.6	4.8	4.7	4.6
Women, 20 years and over									
Civilian noninstitutional population	89,110	89,954	90,072	89,110	89,735	89,807	89,887	89,954	90,072
Civilian labor force	50,317	51,786	51,850	50,462	50,991	51,201	51,558	51,587	51,986
Participation rate	56.5	57.6	57.6	56.6	56.8	57.0	57.4	57.3	57.7
Employed	47,633	49,601	49,287	47,894	48,535	48,788	49,113	49,165	49,543
Employment-population ratio[2]	53.5	55.1	54.7	53.7	54.1	54.3	54.6	54.7	55.0
Agriculture	539	589	606	638	638	640	640	646	715
Nonagricultural industries	47,094	49,012	48,681	47,255	47,897	48,148	48,473	48,519	48,827
Unemployed	2,684	2,186	2,563	2,568	2,456	2,413	2,445	2,422	2,456
Unemployment rate	5.3	4.2	4.9	5.1	4.8	4.7	4.7	4.7	4.7
Both sexes, 16 to 19 years									
Civilian noninstitutional population	14,592	14,447	14,410	14,592	14,477	14,456	14,433	14,447	14,410
Civilian labor force	7,394	7,542	7,319	8,152	8,109	7,975	7,957	7,974	8,071
Participation rate	50.7	52.2	50.8	55.9	56.0	55.2	55.1	55.2	56.0
Employed	6,150	6,519	6,057	6,846	6,856	6,781	6,835	6,795	6,748
Employment-population ratio[2]	42.1	45.1	42.0	46.9	47.4	46.9	47.4	47.0	46.8
Agriculture	173	161	171	315	299	283	295	255	307
Nonagricultural industries	5,977	6,358	5,886	6,531	6,567	6,498	6,550	6,540	6,441
Unemployed	1,244	1,023	1,261	1,306	1,253	1,194	1,122	1,179	1,323
Unemployment rate	16.8	13.6	17.2	16.0	15.5	15.0	14.1	14.8	16.4

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

HOUSEHOLD DATA

Table A-3. Employment status of the civilian population by race, sex, age, and Hispanic origin

(Numbers in thousands)

Employment status, race, sex, age, and Hispanic origin	Not seasonally adjusted				Seasonally adjusted				
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan 1989
WHITE									
Civilian noninstitutional population	157,676	158,705	158,885	157,676	158,422	158,524	158,603	158,705	158,885
Civilian labor force	103,120	104,972	105,020	104,198	105,036	105,051	105,395	105,411	106,103
Participation rate	65.4	66.1	66.1	66.1	66.3	66.3	66.5	66.4	66.8
Employed	97,311	100,423	99,506	99,011	100,056	100,199	100,543	100,567	101,183
Employment-population ratio[1]	61.7	63.3	62.6	62.8	63.2	63.2	63.4	63.4	63.7
Unemployed	5,809	4,549	5,514	5,177	4,978	4,852	4,852	4,844	4,923
Unemployment rate	5.6	4.3	5.3	5.0	4.7	4.6	4.6	4.6	4.6
Men, 20 years and over									
Civilian labor force	54,135	54,731	54,954	54,470	54,839	54,861	54,922	54,898	55,213
Participation rate	77.8	77.9	78.0	78.3	78.3	78.3	78.3	78.2	78.5
Employed	51,220	52,466	52,159	52,080	52,579	52,612	52,624	52,636	53,007
Employment-population ratio[1]	73.6	74.7	74.2	74.8	75.1	75.1	75.0	75.0	75.4
Unemployed	2,914	2,264	2,695	2,390	2,260	2,249	2,298	2,262	2,205
Unemployment rate	5.4	4.1	4.9	4.4	4.1	4.1	4.2	4.1	4.0
Women, 20 years and over									
Civilian labor force	42,545	43,748	43,803	42,677	43,191	43,298	43,625	43,644	43,936
Participation rate	55.8	57.0	57.0	56.0	56.4	56.5	56.9	56.9	57.2
Employed	40,610	42,218	41,948	40,869	41,413	41,583	41,889	41,930	42,201
Employment-population ratio[1]	53.3	55.0	54.6	53.6	54.1	54.2	54.6	54.6	54.9
Unemployed	1,935	1,530	1,854	1,808	1,778	1,715	1,736	1,714	1,734
Unemployment rate	4.5	3.5	4.2	4.2	4.1	4.0	4.0	3.9	3.9
Both sexes, 16 to 19 years									
Civilian labor force	6,441	6,494	6,363	7,041	7,006	6,892	6,848	6,869	6,958
Participation rate	54.2	55.4	54.5	59.2	59.4	58.5	58.3	58.6	59.6
Employed	5,481	5,739	5,399	6,062	6,066	6,004	6,030	6,001	5,975
Employment-population ratio[1]	46.1	49.0	46.2	51.0	51.4	51.0	51.3	51.2	51.1
Unemployed	960	755	964	979	940	888	818	868	983
Unemployment rate	14.9	11.6	15.2	13.9	13.4	12.9	11.9	12.6	14.1
Men	16.3	13.4	18.5	14.5	14.5	14.4	12.6	13.4	16.4
Women	13.4	9.8	11.7	13.3	12.3	11.3	11.3	11.8	11.7
BLACK									
Civilian noninstitutional population	20,539	20,842	20,877	20,539	20,782	20,786	20,811	20,842	20,877
Civilian labor force	12,967	13,367	13,275	13,174	13,201	13,290	13,330	13,405	13,477
Participation rate	63.1	64.1	63.6	64.1	63.6	63.9	64.1	64.3	64.6
Employed	11,417	11,938	11,705	11,570	11,758	11,807	11,831	11,856	11,880
Employment-population ratio[1]	55.6	57.3	56.1	56.3	56.6	56.8	56.8	56.9	56.8
Unemployed	1,550	1,428	1,570	1,604	1,443	1,483	1,499	1,549	1,617
Unemployment rate	12.0	10.7	11.8	12.2	10.9	11.2	11.2	11.6	12.0
Men, 20 years and over									
Civilian labor force	6,029	6,146	6,163	6,093	6,117	6,157	6,146	6,179	6,226
Participation rate	74.0	74.2	74.3	74.8	74.2	74.6	74.3	74.6	75.0
Employed	5,398	5,559	5,504	5,470	5,583	5,586	5,545	5,561	5,576
Employment-population ratio[1]	66.2	67.1	66.3	67.1	67.5	67.4	67.1	67.1	67.2
Unemployed	631	586	659	623	554	591	601	618	650
Unemployment rate	10.5	9.5	10.7	10.2	9.1	9.6	9.8	10.0	10.4
Women, 20 years and over									
Civilian labor force	6,189	6,375	6,357	6,206	6,174	6,234	6,280	6,316	6,399
Participation rate	60.6	61.4	61.1	60.7	59.8	60.2	60.6	60.9	61.2
Employed	5,528	5,773	5,712	5,524	5,575	5,620	5,683	5,654	5,706
Employment-population ratio[1]	54.1	55.6	54.9	54.1	54.0	54.3	54.6	54.5	54.9
Unemployed	661	602	645	682	599	614	617	662	693
Unemployment rate	10.7	9.4	10.1	11.0	9.7	9.8	9.8	10.5	10.4
Both sexes, 16 to 19 years									
Civilian labor force	749	846	755	875	910	899	904	910	881
Participation rate	34.5	38.8	34.7	40.3	41.7	41.2	41.5	41.7	40.5
Employed	492	606	490	576	620	621	623	641	577
Employment-population ratio[1]	22.7	27.8	22.5	26.5	28.4	28.5	28.6	29.4	26.5
Unemployed	257	240	265	299	290	278	281	269	304
Unemployment rate	34.4	28.3	35.1	34.2	31.9	30.9	31.1	29.6	34.5
Men	35.2	30.0	37.8	34.8	31.9	32.8	32.1	29.8	36.7
Women	33.5	26.6	32.3	33.7	31.9	28.6	29.9	29.3	32.0

See footnotes at end of table

Table A-3. Employment status of the civilian population by race, sex, age, and Hispanic origin—Continued

(Numbers in thousands)

Employment status, race, sex, age, and Hispanic origin	Not seasonally adjusted			Seasonally adjusted					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
HISPANIC ORIGIN									
Civilian noninstitutional population	13,115	13,533	13,564	13,115	13,419	13,458	13,495	13,533	13,564
Civilian labor force	8,758	9,053	9,110	8,862	9,061	9,075	9,148	9,133	9,205
Participation rate	66.8	66.9	67.2	67.6	67.5	67.4	67.8	67.5	67.9
Employed	8,040	8,402	8,274	8,199	8,378	8,368	8,419	8,441	8,434
Employment-population ratio[2]	61.3	62.1	61.0	62.5	62.4	62.2	62.4	62.4	62.2
Unemployed	718	651	836	663	683	707	729	692	771
Unemployment rate	8.2	7.2	9.2	7.5	7.5	7.8	8.0	7.6	8.4

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Table A-4. Selected employment indicators

(In thousands)

Category	Not seasonally adjusted			Seasonally adjusted					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
CHARACTERISTIC									
Civilian employed, 16 years and over	112,139	115,978	114,786	114,055	115,370	115,573	115,947	116,009	116,711
Married men, spouse present	40,000	40,599	40,475	40,436	40,513	40,504	40,407	40,483	40,925
Married women, spouse present	28,185	29,344	29,323	28,435	28,838	28,890	28,995	29,053	29,589
Women who maintain families	6,174	6,473	6,435	6,153	6,253	6,344	6,375	6,389	6,418
MAJOR INDUSTRY AND CLASS OF WORKER									
Agriculture:									
Wage and salary workers	1,368	1,507	1,420	1,629	1,612	1,661	1,672	1,698	1,694
Self-employed workers	1,325	1,247	1,287	1,427	1,421	1,405	1,450	1,349	1,387
Unpaid family workers	95	116	124	143	137	177	125	140	189
Nonagricultural industries:									
Wage and salary workers	101,065	104,231	103,158	102,413	103,501	103,733	103,770	103,904	104,510
Government	17,214	17,627	17,532	17,080	17,145	17,240	17,387	17,423	17,393
Private industries	83,851	86,604	85,626	85,333	86,358	86,493	86,383	86,481	87,117
Private households	1,071	1,173	1,116	1,146	1,119	1,152	1,209	1,210	1,196
Other industries	82,780	85,431	84,510	84,187	85,237	85,341	85,174	85,271	85,921
Self-employed workers	8,060	8,612	8,517	8,246	8,570	8,479	8,619	8,602	8,718
Unpaid family workers	226	264	280	241	230	232	300	286	298
PERSONS AT WORK PART TIME[1]									
All industries:									
Part time for economic reasons	5,394	5,239	5,138	5,355	5,097	4,983	5,061	5,321	5,097
Slack work	2,683	2,620	2,634	2,351	2,266	2,220	2,279	2,549	2,302
Could only find part-time work	2,405	2,323	2,150	2,630	2,399	2,399	2,375	2,410	2,352
Voluntary part time	14,906	16,420	15,755	14,580	15,270	15,161	15,448	15,383	15,401
Nonagricultural industries:									
Part time for economic reasons	5,191	4,961	4,914	5,113	4,862	4,727	4,818	5,033	4,837
Slack work	2,527	2,419	2,455	2,212	2,102	2,095	2,116	2,377	2,144
Could only find part-time work	2,363	2,256	2,112	2,554	2,317	2,319	2,298	2,307	2,283
Voluntary part time	14,491	16,019	15,374	14,115	14,819	14,679	14,986	14,928	14,970

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial dispute.

HOUSEHOLD DATA

Table A-6. Range of unemployment measures based on varying definitions of unemployment and the labor force, seasonally adjusted

(Percent)

Measure	Quarterly averages					Monthly data		
	1987	1988				1988		1989
	IV	I	II	III	IV	Nov.	Dec.	Jan.
U-1 Persons unemployed 15 weeks or longer as a percent of the civilian labor force	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.2
U-2 Job losers as a percent of the civilian labor force	2.7	2.6	2.5	2.5	2.5	2.5	2.5	2.5
U-3 Unemployed persons 25 years and over as a percent of the civilian labor force	4.5	4.4	4.2	4.2	4.1	4.2	4.1	4.1
U-4 Unemployed full-time jobseekers as a percent of the full-time civilian labor force	5.5	5.3	5.1	5.1	5.0	5.0	5.1	5.0
U-5a Total unemployed as a percent of the labor force, including the resident Armed Forces	5.8	5.6	5.4	5.4	5.3	5.3	5.3	5.4
U-5b Total unemployed as a percent of the civilian labor force	5.9	5.7	5.5	5.5	5.3	5.4	5.3	5.4
U-6 Total full-time jobseekers plus 1/2 part-time jobseekers plus 1/2 total on part time for economic reasons as a percent of the civilian labor force less 1/2 of the part-time labor force	8.1	7.9	7.6	7.6	7.5	7.4	7.6	7.5
U-7 Total full-time jobseekers plus 1/2 part-time jobseekers plus 1/2 total on part time for economic reasons plus discouraged workers as a percent of the civilian labor force plus discouraged workers less 1/2 of the part-time labor force	8.9	8.7	8.3	8.4	8.2	N.A.	N.A.	N.A.

N.A. = not available.

Table A-4. Selected unemployment indicators, seasonally adjusted

Category	Number of unemployed persons (in thousands)			Unemployment rates[1]					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
CHARACTERISTIC									
Total, 16 years and over	6,980	6,554	6,716	5.8	5.4	5.3	5.4	5.3	5.4
Men, 16 years and over	3,799	3,583	3,710	5.7	5.4	5.4	5.4	5.3	5.5
Men, 20 years and over	3,106	2,953	2,938	5.0	4.6	4.6	4.8	4.7	4.6
Women, 16 years and over	3,181	2,971	3,006	5.8	5.5	5.3	5.3	5.4	5.4
Women, 20 years and over	2,566	2,422	2,455	5.1	4.8	4.7	4.7	4.7	4.7
Both sexes, 16 to 19 years	1,306	1,179	1,323	16.0	15.5	15.0	14.1	14.8	16.4
Married men, spouse present	1,464	1,303	1,304	3.5	3.1	3.1	3.3	3.1	3.1
Married women, spouse present	1,221	1,111	1,115	4.1	3.8	3.7	3.8	3.7	3.6
Women who maintain families	593	571	557	8.8	8.1	7.9	7.7	8.2	8.0
Full-time workers	5,550	5,317	5,295	5.4	5.1	5.0	5.0	5.1	5.0
Part-time workers	1,458	1,258	1,445	8.3	7.4	7.4	7.1	7.0	7.9
Labor force time lost[2]	--	--	--	6.6	6.3	6.1	6.2	6.3	6.2
INDUSTRY									
Nonagricultural private wage and salary workers	5,260	4,927	5,177	5.8	5.4	5.4	5.5	5.4	5.6
Goods-producing industries	1,992	1,877	1,894	6.9	6.4	6.4	6.4	6.4	6.4
Mining	62	57	43	7.5	8.6	8.8	8.9	7.7	6.1
Construction	747	662	663	11.9	9.6	10.0	10.6	10.4	10.4
Manufacturing	1,183	1,158	1,189	5.5	5.4	5.3	5.1	5.2	5.3
Durable goods	680	656	661	5.3	5.2	5.0	4.9	5.0	5.0
Nondurable goods	503	502	528	5.8	5.8	5.7	5.3	5.5	5.7
Service-producing industries	3,268	3,050	3,283	5.3	5.0	4.9	5.1	4.9	5.2
Transportation and public utilities	238	241	245	3.7	3.8	3.5	4.0	3.8	3.8
Wholesale and retail trade	1,439	1,471	1,489	6.2	6.2	6.0	6.2	6.3	6.3
Finance and service industries	1,561	1,338	1,550	4.9	4.4	4.5	4.6	4.1	4.7
Government workers	536	477	486	3.0	2.7	2.6	2.5	2.7	2.7
Agricultural wage and salary workers	209	163	176	11.4	10.8	10.2	9.3	8.8	9.5

[1] Unemployment as a percent of the civilian labor force.

[2] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

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Table A-7. Duration of unemployment

(Numbers in thousands)

Weeks of unemployment	Not seasonally adjusted			Seasonally adjusted					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
DURATION									
Less than 5 weeks	3,395	2,701	3,464	3,118	3,116	3,059	3,117	3,029	3,181
5 to 14 weeks	2,397	2,045	2,258	2,214	1,896	1,835	1,935	2,039	2,081
15 weeks and over	1,811	1,396	1,586	1,726	1,568	1,554	1,502	1,495	1,512
15 to 26 weeks	904	701	817	838	775	768	787	758	757
27 weeks and over	907	696	770	890	793	786	715	737	756
Average (mean) duration, in weeks	13.8	13.2	12.3	14.2	13.5	13.4	12.6	12.8	12.7
Median duration, in weeks	6.2	6.1	5.6	6.3	5.7	5.7	5.6	5.8	5.7
PERCENT DISTRIBUTION									
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 weeks	44.6	44.0	47.4	44.2	47.4	47.4	47.6	46.2	47.0
5 to 14 weeks	31.5	33.3	30.9	31.4	28.8	28.5	29.5	31.1	30.7
15 weeks and over	23.8	22.7	21.7	24.5	23.8	24.1	22.9	22.8	22.3
15 to 26 weeks	11.9	11.4	11.2	11.9	11.8	12.2	12.0	11.5	11.2
27 weeks and over	11.9	11.3	10.5	12.6	12.1	11.9	10.9	11.2	11.1

Table A-8. Reason for unemployment

(Numbers in thousands)

Reasons	Not seasonally adjusted			Seasonally adjusted					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
NUMBER OF UNEMPLOYED									
Job losers	3,770	3,078	3,701	3,181	3,079	2,951	3,031	3,098	3,121
On layoff	1,272	866	1,210	872	833	844	814	819	827
Other job losers	2,498	2,212	2,491	2,309	2,246	2,107	2,217	2,247	2,294
Job leavers	1,133	903	1,087	1,046	985	984	963	998	985
Reentrants	1,940	1,523	1,866	1,907	1,767	1,747	1,766	1,725	1,836
New entrants	759	638	675	670	761	747	799	799	780
PERCENT DISTRIBUTION									
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	49.6	50.1	50.7	45.4	46.7	45.9	46.2	46.5	46.4
On layoff	16.7	14.1	16.6	12.5	12.6	13.1	12.4	12.4	12.3
Other job losers	32.9	36.0	34.1	33.0	34.1	32.8	33.8	34.1	34.1
Job leavers	14.9	14.7	14.8	14.9	14.9	15.3	14.7	15.1	14.7
Reentrants	25.5	24.8	25.5	27.2	26.8	27.2	26.9	26.2	27.3
New entrants	10.0	10.4	9.2	12.4	11.5	11.6	12.2	12.1	11.6
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE									
Job losers	3.2	2.5	3.0	2.6	2.5	2.4	2.5	2.5	2.5
Job leavers	.9	.7	.9	.9	.8	.8	.8	.8	.8
Reentrants	1.6	1.2	1.5	1.6	1.4	1.4	1.4	1.4	1.5
New entrants	.6	.5	.6	.7	.6	.6	.7	.7	.6

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Table A-9. Unemployed persons by sex and age, seasonally adjusted

Sex and age	Number of unemployed persons (in thousands)			Unemployment rates[1]					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
Total, 16 years and over	6,980	6,554	6,716	5.8	5.4	5.3	5.4	5.3	5.4
16 to 24 years	2,656	2,421	2,663	11.6	10.9	10.9	10.6	10.9	11.9
16 to 19 years	1,306	1,179	1,323	16.0	15.5	15.0	14.1	14.8	16.4
16 to 17 years	627	535	581	18.5	19.6	17.2	15.8	16.6	18.3
18 to 19 years	689	637	751	14.5	12.8	13.3	12.9	13.3	15.4
20 to 24 years	1,350	1,242	1,340	9.1	8.4	8.6	8.7	8.7	9.3
25 years and over	4,370	4,125	4,101	4.5	4.2	4.1	4.2	4.1	4.1
25 to 54 years	3,861	3,687	3,632	4.6	4.4	4.3	4.4	4.3	4.2
55 years and over	516	457	474	3.4	2.9	2.8	2.8	3.0	3.1
Men, 16 years and over	3,799	3,583	3,710	5.7	5.4	5.4	5.4	5.3	5.5
16 to 24 years	1,448	1,280	1,494	12.2	11.3	11.8	10.9	11.1	12.8
16 to 19 years	693	630	772	16.5	16.4	16.5	14.8	15.4	16.6
16 to 17 years	341	290	330	19.2	20.8	18.5	17.3	17.3	20.6
18 to 19 years	366	333	455	15.1	13.5	15.0	13.0	13.5	17.9
20 to 24 years	755	650	722	9.8	8.5	9.2	8.8	8.7	9.6
25 years and over	2,378	2,298	2,245	4.3	4.1	4.0	4.2	4.1	4.0
25 to 54 years	2,056	1,999	1,986	4.5	4.3	4.2	4.4	4.3	4.2
55 years and over	335	286	269	3.8	2.9	3.0	3.2	3.3	3.0
Women, 16 years and over	3,181	2,971	3,006	5.8	5.5	5.3	5.3	5.4	5.4
16 to 24 years	1,208	1,141	1,169	11.0	10.5	10.9	10.3	10.7	10.9
16 to 19 years	613	549	551	15.6	14.5	13.3	13.3	14.2	14.0
16 to 17 years	286	245	251	17.7	18.2	15.8	14.1	15.8	15.9
18 to 19 years	323	304	296	13.9	12.0	11.6	12.6	13.1	12.7
20 to 24 years	595	592	618	8.4	8.2	7.9	8.6	8.7	9.1
25 years and over	1,992	1,829	1,856	4.6	4.3	4.2	4.2	4.1	4.1
25 to 54 years	1,805	1,688	1,646	4.9	4.5	4.5	4.4	4.4	4.3
55 years and over	181	171	205	2.9	2.9	2.4	2.4	2.6	3.1

[1] Unemployment as a percent of the civilian labor force.

Table A-10. Employment status of black and other workers

(Numbers in thousands)

Employment status	Not seasonally adjusted			Seasonally adjusted[1]					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
Civilian noninstitutional population	26,146	26,697	26,779	26,146	26,540	26,590	26,641	26,697	26,779
Civilian labor force	16,622	17,148	17,075	16,853	16,910	17,070	17,079	17,172	17,283
Participation rate	63.6	64.2	63.8	64.5	63.7	64.2	64.1	64.3	64.5
Employed	14,828	15,555	15,279	15,014	15,301	15,394	15,365	15,457	15,449
Employment-population ratio[2]	56.7	58.3	57.1	57.4	57.7	57.9	57.7	57.9	57.7
Unemployed	1,794	1,593	1,795	1,839	1,609	1,676	1,714	1,715	1,833
Unemployment rate	10.8	9.3	10.5	10.9	9.5	9.8	10.0	10.0	10.6
Not in labor force	9,524	9,549	9,704	9,293	9,630	9,520	9,562	9,525	9,496

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

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Table A-11. Occupational status of the employed and unemployed, not seasonally adjusted

(Numbers in thousands)

Occupation	Civilian employed		Unemployed		Unemployment rate	
	Jan. 1988	Jan. 1989	Jan. 1988	Jan. 1989	Jan. 1988	Jan. 1989
Total, 16 years and over	112,139	114,786	7,603	7,309	6.3	6.0
Managerial and professional specialty	28,503	29,810	615	625	2.1	2.1
Executive, administrative, and managerial	13,579	14,476	333	403	2.4	2.7
Professional specialty	14,925	15,333	281	222	1.9	1.4
Technical, sales, and administrative support	35,213	35,430	1,616	1,608	4.4	4.3
Technicians and related support	3,466	3,585	119	105	3.3	2.8
Sales occupations	13,239	13,624	749	775	5.3	5.4
Administrative support, including clerical	18,478	18,221	748	729	3.9	3.8
Service occupations	15,136	15,473	1,280	1,167	7.7	7.0
Private household	877	902	51	49	5.5	5.1
Protective service	1,912	1,979	89	94	4.5	4.6
Service, except private household and protective	12,347	12,593	1,120	1,024	8.3	7.5
Precision production, craft, and repair	13,193	13,658	980	977	6.9	6.7
Mechanics and repairers	4,297	4,627	183	186	4.1	3.9
Construction trades	4,826	4,790	564	593	10.5	11.0
Other precision production, craft, and repair	4,069	4,241	233	198	5.4	4.4
Operators, fabricators, and laborers	17,207	17,574	1,998	1,944	10.4	10.0
Machine operators, assemblers, and inspectors	7,926	8,180	779	798	9.0	8.9
Transportation and material moving occupations	4,644	4,687	440	412	8.7	8.1
Handlers, equipment cleaners, helpers, and laborers	4,636	4,707	779	734	14.4	13.5
Construction laborers	658	626	283	204	30.1	24.5
Other handlers, equipment cleaners, helpers, and laborers	3,979	4,081	495	530	11.1	11.5
Farming, forestry, and fishing	2,888	2,841	331	287	10.3	9.2

Persons with no previous work experience and those whose last job was in the Armed Forces are included in the unemployed total.

Table A-12. Employment status of male Vietnam-era veterans and nonveterans by age, not seasonally adjusted

(Numbers in thousands)

Veteran status and age	Civilian noninstitutional population		Civilian labor force							
			Total		Employed		Unemployed			
							Number		Percent of labor force	
	Jan. 1988	Jan. 1989	Jan. 1988	Jan. 1989	Jan. 1988	Jan. 1989	Jan. 1988	Jan. 1989	Jan. 1988	Jan. 1989
VIETNAM-ERA VETERANS										
Total, 30 years and over	7,865	7,916	7,207	7,254	6,840	6,969	367	285	5.1	3.9
30 to 44 years	6,054	5,701	5,739	5,404	5,433	5,189	306	215	5.3	4.0
30 to 34 years	794	582	750	530	704	514	46	16	6.1	3.0
35 to 39 years	2,365	1,937	2,258	1,868	2,112	1,781	146	87	6.5	4.7
40 to 44 years	2,895	3,182	2,731	3,006	2,617	2,894	114	112	4.2	3.7
45 years and over	1,811	2,215	1,468	1,850	1,407	1,780	61	70	4.2	3.8
NONVETERANS										
Total, 30 to 44 years	19,996	20,988	18,801	19,767	17,879	18,836	922	931	4.9	4.7
30 to 34 years	8,981	9,219	8,499	8,713	8,019	8,311	480	402	5.6	4.6
35 to 39 years	6,598	7,177	6,201	5,761	5,942	6,418	259	343	4.2	5.1
40 to 44 years	4,417	4,592	4,101	4,293	3,918	4,107	183	186	4.5	4.3

NOTE: Male Vietnam-era veterans are men who served in the Armed Forces between August 5, 1964 and May 7, 1975. Nonveterans are men who have never served in the Armed Forces; published data are limited to those 30 to 44 years of age, the group that most closely corresponds to the bulk of the Vietnam-era veteran population.

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Table A-13. Employment status of the civilian population for eleven large States

(Numbers in thousands)

State and employment status	Not seasonally adjusted[1]			Seasonally adjusted[1]					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
California									
Civilian noninstitutional population	20,701	20,973	20,994	20,701	20,903	20,927	20,951	20,973	20,994
Civilian labor force	13,867	14,131	14,166	13,913	14,053	14,063	14,186	14,198	14,220
Employed	13,090	13,520	13,407	13,188	13,390	13,383	13,451	13,524	13,505
Unemployed	777	611	761	725	723	700	735	674	715
Unemployment rate	5.6	4.3	5.4	5.2	5.1	5.0	5.2	4.7	5.0
Florida									
Civilian noninstitutional population	9,576	9,819	9,839	9,576	9,755	9,777	9,798	9,819	9,839
Civilian labor force	5,922	6,094	6,052	6,019	6,133	6,170	6,144	6,085	6,155
Employed	5,626	5,766	5,693	5,720	5,831	5,862	5,823	5,755	5,793
Unemployed	296	327	358	299	302	308	321	330	362
Unemployment rate	5.0	5.4	5.9	5.0	4.9	5.0	5.2	5.4	5.9
Illinois									
Civilian noninstitutional population	8,735	8,712	8,709	8,735	8,720	8,718	8,716	8,712	8,709
Civilian labor force	5,722	5,796	5,791	5,765	5,745	5,771	5,844	5,817	5,837
Employed	5,300	5,436	5,419	5,371	5,395	5,388	5,433	5,429	5,491
Unemployed	422	360	372	394	350	383	411	388	346
Unemployment rate	7.4	6.2	6.4	6.8	6.1	6.6	7.0	6.7	5.9
Massachusetts									
Civilian noninstitutional population	4,593	4,598	4,598	4,593	4,598	4,598	4,598	4,598	4,598
Civilian labor force	3,104	3,127	3,139	3,133	3,139	3,151	3,153	3,150	3,166
Employed	2,986	3,033	3,020	3,031	3,043	3,047	3,032	3,043	3,063
Unemployed	118	94	119	102	96	104	121	107	103
Unemployment rate	3.8	3.0	3.8	3.3	3.1	3.3	3.8	3.4	3.3
Michigan									
Civilian noninstitutional population	6,985	7,063	7,089	6,985	7,043	7,050	7,057	7,063	7,089
Civilian labor force	4,438	4,638	4,589	4,536	4,611	4,615	4,652	4,648	4,687
Employed	3,965	4,310	4,230	4,097	4,274	4,282	4,310	4,306	4,364
Unemployed	473	329	358	439	337	333	342	342	323
Unemployment rate	10.7	7.1	7.8	9.7	7.3	7.2	7.4	7.4	6.9
New Jersey									
Civilian noninstitutional population	6,023	6,050	6,051	6,023	6,044	6,046	6,048	6,050	6,051
Civilian labor force	3,964	4,013	4,009	4,001	3,973	3,983	3,976	4,043	4,046
Employed	3,785	3,854	3,825	3,850	3,823	3,810	3,821	3,875	3,888
Unemployed	178	159	184	151	150	153	157	168	158
Unemployment rate	4.5	4.0	4.6	3.8	3.8	3.9	3.9	4.2	3.9
New York									
Civilian noninstitutional population	13,784	13,807	13,806	13,784	13,804	13,805	13,807	13,807	13,806
Civilian labor force	8,533	8,614	8,652	8,506	8,554	8,533	8,560	8,560	8,621
Employed	8,105	8,217	8,170	8,132	8,184	8,174	8,177	8,177	8,198
Unemployed	428	397	482	374	370	359	383	403	423
Unemployment rate	5.0	4.6	5.6	4.4	4.3	4.2	4.5	4.7	4.9
North Carolina									
Civilian noninstitutional population	4,864	4,959	4,967	4,864	4,934	4,943	4,951	4,959	4,967
Civilian labor force	3,255	3,358	3,381	3,307	3,358	3,387	3,386	3,371	3,435
Employed	3,089	3,247	3,231	3,156	3,237	3,254	3,266	3,254	3,302
Unemployed	166	111	150	149	121	133	120	117	133
Unemployment rate	5.1	3.3	4.4	4.5	3.6	3.9	3.5	3.5	3.9
Ohio									
Civilian noninstitutional population	8,207	8,281	8,286	8,207	8,263	8,269	8,276	8,281	8,286
Civilian labor force	5,275	5,352	5,384	5,324	5,311	5,349	5,366	5,355	5,426
Employed	4,899	5,066	5,015	4,981	5,004	5,049	5,059	5,060	5,094
Unemployed	376	286	369	343	307	300	307	295	332
Unemployment rate	7.1	5.4	6.9	6.4	5.8	5.6	5.7	5.5	6.1

See footnotes at end of table.

HOUSEHOLD DATA

Table A-13. Employment status of the civilian population for eleven large States—Continued

(Numbers in thousands)

State and employment status	Not seasonally adjusted[1]			Seasonally adjusted[2]					
	Jan. 1988	Dec. 1988	Jan. 1989	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989
Pennsylvania									
Civilian noninstitutional population	9,337	9,400	9,404	9,337	9,385	9,390	9,396	9,400	9,404
Civilian labor force	5,745	5,806	5,884	5,814	5,827	5,744	5,779	5,816	5,947
Employed	5,388	5,562	5,592	5,489	5,523	5,436	5,510	5,543	5,689
Unemployed	357	244	292	325	304	308	269	273	258
Unemployment rate	6.2	4.2	5.0	5.6	5.2	5.4	4.7	4.7	4.3
Texas									
Civilian noninstitutional population	12,016	12,000	11,997	12,016	12,007	12,005	12,003	12,000	11,997
Civilian labor force	8,139	8,266	8,198	8,250	8,321	8,309	8,308	8,284	8,303
Employed	7,458	7,751	7,596	7,800	7,732	7,708	7,725	7,693	7,713
Unemployed	681	515	622	660	589	601	583	591	590
Unemployment rate	8.4	6.2	7.6	7.9	7.1	7.2	7.0	7.1	7.1

[1] These are the official Bureau of Labor Statistics' estimates used in the administration of Federal fund allocation programs.

[2] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and the seasonally adjusted columns.

NOTE: The not seasonally adjusted data for 1988 have been revised to reflect the latest 1988 population estimates for the States. These revised estimates were used to develop seasonally adjusted data for 1988 and seasonal factors to be used in 1989.

ESTABLISHMENT DATA

ESTABLISHMENT DATA

Table B-1. Employees on nonagricultural payrolls by industry

(In thousands)

Industry	Not seasonally adjusted				Seasonally adjusted					
	Jan. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/
Total	102,882	108,313	108,487	106,514	106,262	106,737	106,973	107,419	107,648	108,048
Total private	85,593	90,386	90,645	88,993	87,044	89,205	89,481	89,859	90,094	90,520
Goods-producing industries	24,593	26,888	25,869	25,414	25,188	25,648	25,743	25,849	25,892	26,040
Mining	722	731	724	713	728	734	729	722	719	719
Oil and gas extraction	418.8	412.4	410.5	405.7	414	419	413	406	402	402
Construction	4,642	5,559	5,382	5,036	5,083	5,363	5,366	5,413	5,436	5,538
General building contractors	1,276.6	1,445.7	1,413.5	1,393.6	1,365	1,404	1,393	1,406	1,414	1,446
Manufacturing	19,231	19,798	19,763	19,645	19,369	19,549	19,648	19,714	19,737	19,783
Production workers	13,101	13,549	13,503	13,400	13,225	13,332	13,412	13,465	13,474	13,524
Durable goods	11,332	11,682	11,679	11,610	11,393	11,537	11,595	11,637	11,658	11,672
Production workers	7,531	7,813	7,805	7,747	7,582	7,689	7,733	7,765	7,776	7,798
Lumber and wood products	729.1	767.5	760.8	748.6	734	753	760	767	772	774
Furniture and fixtures	537.9	547.8	545.4	541.8	536	538	540	541	540	540
Stone, clay, and glass products	563.1	594.6	586.4	572.8	583	585	588	590	593	593
Primary metal industries	768.8	794.8	795.0	796.8	768	787	794	794	794	794
Blast furnaces and basic steel products	279.3	280.9	280.3	280.3	279	280	282	282	279	280
Fabricated metal products	1,428.6	1,487.5	1,482.6	1,477.2	1,435	1,468	1,469	1,474	1,477	1,483
Machinery, except electrical	2,084.7	2,180.5	2,192.8	2,196.5	2,085	2,159	2,173	2,185	2,188	2,195
Electrical and electronic equipment	2,113.3	2,138.5	2,134.5	2,125.2	2,112	2,124	2,126	2,130	2,126	2,123
Transportation equipment	2,032.2	2,064.3	2,070.0	2,055.9	2,036	2,032	2,045	2,050	2,050	2,060
Motor vehicles and equipment	831.1	869.4	871.7	858.2	859	849	859	860	857	867
Instruments and related products	702.9	722.1	726.9	725.3	706	716	719	721	725	726
Miscellaneous manufacturing	371.1	391.3	384.2	375.1	380	383	381	383	385	384
Nondurable goods	7,899	8,116	8,084	8,035	7,976	8,012	8,053	8,077	8,087	8,111
Production workers	5,570	5,736	5,698	5,653	5,643	5,643	5,679	5,700	5,698	5,726
Food and kindred products	1,597.9	1,675.8	1,644.5	1,615.7	1,647	1,632	1,654	1,661	1,654	1,666
Tobacco manufactures	57.0	54.6	54.3	53.4	55	51	52	53	52	51
Textile mill products	728.5	725.4	724.3	722.7	732	722	722	723	724	726
Apparel and other textile products	1,096.6	1,100.5	1,095.2	1,089.0	1,105	1,087	1,086	1,093	1,095	1,097
Paper and allied products	682.0	692.8	692.9	690.1	685	688	691	691	692	694
Printing and publishing	1,536.5	1,590.8	1,598.0	1,595.2	1,538	1,575	1,581	1,583	1,592	1,597
Chemicals and allied products	1,040.5	1,071.8	1,073.8	1,073.9	1,047	1,069	1,071	1,073	1,076	1,080
Petroleum and coal products	163.2	168.5	166.1	164.3	166	168	169	169	168	167
Rubber and misc. plastics products	852.4	888.8	889.8	886.2	854	874	882	887	889	887
Leather and leather products	144.9	146.8	145.2	144.1	147	146	145	144	145	146
Service-producing industries	78,287	82,225	82,618	81,100	79,982	81,089	81,230	81,570	81,748	82,008
Transportation and public utilities	5,437	5,693	5,713	5,650	5,499	5,618	5,631	5,658	5,667	5,713
Transportation	3,210	3,444	3,467	3,406	3,261	3,366	3,380	3,407	3,419	3,458
Communication and public utilities	2,227	2,249	2,246	2,244	2,238	2,252	2,251	2,251	2,248	2,255
Wholesale trade	5,965	6,292	6,312	6,286	6,010	6,219	6,246	6,275	6,300	6,333
Durable goods	3,537	3,762	3,782	3,776	3,555	3,714	3,736	3,758	3,778	3,795
Nondurable goods	2,428	2,530	2,530	2,510	2,455	2,505	2,510	2,517	2,522	2,538
Retail trade	18,639	19,692	20,068	19,267	18,927	19,291	19,327	19,401	19,427	19,560
General merchandise stores	2,589.2	2,708.2	2,850.9	2,619.2	2,526	2,533	2,520	2,533	2,539	2,555
Food stores	2,995.3	3,195.3	3,243.5	3,188.4	3,014	3,110	3,163	3,157	3,177	3,208
Automotive dealers and service stations	2,014.9	2,099.5	2,095.4	2,084.8	2,038	2,095	2,103	2,106	2,106	2,108
Eating and drinking places	5,968.3	6,381.7	6,390.5	6,168.7	6,260	6,384	6,415	6,440	6,449	6,466
Finance, insurance, and real estate	6,579	6,708	6,722	6,681	6,633	6,692	6,708	6,725	6,743	6,735
Finance	3,308	3,304	3,319	3,311	3,308	3,308	3,308	3,314	3,326	3,318
Insurance	2,049	2,090	2,097	2,096	2,052	2,083	2,089	2,092	2,099	2,098
Real estate	1,230	1,306	1,306	1,274	1,273	1,309	1,311	1,319	1,318	1,319
Services	24,378	25,921	25,961	25,695	24,795	25,737	25,826	25,947	26,065	26,139
Business services	5,239.4	5,602.2	5,629.1	5,511.2	5,321	5,538	5,553	5,563	5,607	5,595
Health services	7,802.6	7,486.7	7,650.9	7,484.6	7,819	7,323	7,565	7,414	7,466	7,500
Government	17,299	17,927	17,842	17,521	17,218	17,532	17,492	17,564	17,566	17,528
Federal	2,953	2,971	2,998	2,982	2,973	2,989	2,989	2,989	2,999	3,003
State	3,975	4,192	4,156	4,028	4,086	4,086	4,070	4,076	4,071	4,056
Local	10,281	10,764	10,696	10,511	10,239	10,457	10,433	10,501	10,476	10,469

p = preliminary.

ESTABLISHMENT DATA

ESTABLISHMENT DATA

Table B-2. Average weekly hours of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Jan. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/
Total private	34.4	34.7	34.9	34.5	34.7	34.7	34.9	34.8	34.7	34.9
Mining	42.1	41.9	42.8	42.8	(2)	(2)	(2)	(2)	(2)	(2)
Construction	35.9	37.7	37.2	36.6	(2)	(2)	(2)	(2)	(2)	(2)
Manufacturing	41.0	41.5	41.7	40.9	41.1	41.2	41.2	41.2	40.9	41.0
Overtime hours	3.8	4.1	4.2	3.8	3.9	3.9	4.0	3.9	3.9	3.9
Durable goods	41.6	42.2	42.5	41.7	41.6	41.9	41.9	41.9	41.6	41.7
Overtime hours	3.9	4.4	4.5	4.0	4.0	4.0	4.2	4.2	4.1	4.1
Lumber and wood products	39.5	40.0	40.6	39.7	40.2	39.9	40.7	40.3	40.5	40.4
Furniture and fixtures	38.9	39.8	40.5	39.5	39.6	39.6	39.6	39.4	39.2	40.1
Stone, clay, and glass products	40.9	42.6	42.2	41.8	42.0	42.3	42.5	42.6	42.4	42.9
Primary metal industries	43.5	43.9	44.0	43.4	43.4	44.0	45.8	45.7	43.3	43.5
Blast furnaces and basic steel products	43.9	44.0	44.1	43.8	44.0	44.0	44.3	44.8	43.6	43.8
Fabricated metal products	41.8	42.5	42.7	41.9	41.8	42.0	41.9	42.2	41.7	41.9
Machinery, except electrical	42.8	42.8	43.4	42.5	42.7	42.7	42.6	42.5	42.3	42.4
Electrical and electronic equipment	41.3	41.4	41.9	40.8	41.1	41.0	41.0	41.0	40.8	40.6
Transportation equipment	42.4	43.6	43.9	43.0	42.0	43.5	43.3	43.3	42.7	42.7
Motor vehicles and equipment	42.5	44.6	44.9	43.8	42.1	44.5	44.2	44.6	43.4	43.6
Instruments and related products	41.8	42.0	42.0	41.3	41.8	41.6	41.9	41.6	41.0	41.3
Miscellaneous manufacturing	38.9	39.7	39.7	39.4	39.1	39.2	39.1	39.2	38.9	39.6
Nondurable goods	40.2	40.5	40.6	40.0	40.3	40.2	40.2	40.2	40.0	40.1
Overtime hours	3.7	3.8	3.8	3.5	3.8	3.7	3.8	3.6	3.6	3.6
Food and kindred products	40.5	40.9	41.0	40.4	40.6	40.5	40.6	40.6	40.4	40.5
Tobacco manufactures	39.2	40.3	39.8	38.1	(2)	(2)	(2)	(2)	(2)	(2)
Textile mill products	41.3	41.4	41.3	40.5	41.5	41.1	41.0	41.0	40.7	40.7
Apparel and other textile products	36.6	37.3	37.1	36.7	36.8	37.1	36.8	37.0	36.6	37.0
Paper and allied products	43.5	43.4	43.8	42.9	43.4	43.3	43.2	43.1	42.9	42.4
Printing and publishing	37.8	38.1	38.4	37.7	38.1	38.1	38.0	37.8	37.7	38.0
Chemicals and allied products	42.5	42.6	43.0	42.5	42.5	42.1	42.5	42.4	42.4	42.5
Petroleum and coal products	44.2	44.2	44.2	44.2	(2)	(2)	(2)	(2)	(2)	(2)
Rubber and misc. plastics products	41.8	41.9	42.1	41.7	41.7	41.6	41.5	41.7	41.3	41.6
Leather and leather products	37.6	37.4	38.2	37.8	38.0	37.5	37.9	37.3	37.6	38.2
Transportation and public utilities	39.0	39.3	39.5	39.1	39.5	39.4	39.4	39.2	39.4	39.5
Wholesale trade	37.9	38.0	38.2	38.1	38.1	38.1	38.1	38.0	38.0	38.3
Retail trade	28.3	28.8	29.5	28.6	29.0	28.9	29.2	29.0	29.1	29.3
Finance, insurance, and real estate	36.2	35.7	35.8	36.3	(2)	(2)	(2)	(2)	(2)	(2)
Services	32.4	32.5	32.5	32.5	32.6	32.6	32.8	32.6	32.6	32.7

1/ Data relate to production workers in mining and manufacturing; construction workers in construction; and nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance; insurance, and real estate; and services. These groups account for approximately four-fifths of the total employees on private nonagricultural payrolls.

2/ These series are not published seasonally adjusted since the seasonal component is small relative to the trend-cycle and/or irregular components and consequently cannot be separated with sufficent precision.

p = preliminary.

ESTABLISHMENT DATA

ESTABLISHMENT DATA

Table B-3. Average hourly and weekly earnings of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

Industry	Average hourly earnings				Average weekly earnings			
	Jan. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/	Jan. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/
Total private	$9.18	$9.46	$9.46	$9.55	$315.79	$328.26	$330.15	$329.48
Seasonally adjusted	9.14	9.42	9.44	9.50	317.16	327.82	327.57	331.55
Mining	12.77	12.83	12.96	13.07	537.62	537.58	534.69	559.40
Construction	12.99	13.04	13.16	13.23	466.34	491.61	489.55	484.22
Manufacturing	10.07	10.30	10.37	10.38	412.87	427.45	432.43	424.34
Durable goods	10.60	10.85	10.91	10.90	440.96	457.87	463.68	454.53
Lumber and wood products	8.51	8.68	8.76	8.75	336.15	347.20	353.98	347.38
Furniture and fixtures	7.80	8.00	8.04	8.05	303.42	318.40	325.62	316.37
Stone, clay, and glass products	10.35	10.61	10.57	10.61	423.32	451.99	446.05	443.50
Primary metal industries	12.06	12.23	12.27	12.24	524.61	536.90	539.88	531.22
Blast furnaces and basic steel products	13.82	14.01	14.08	14.02	606.78	616.44	620.93	614.08
Fabricated metal products	10.12	10.39	10.42	10.42	423.02	439.88	444.93	436.60
Machinery, except electrical	10.83	11.17	11.20	11.17	464.38	478.08	486.08	474.73
Electrical and electronic equipment	10.02	10.24	10.29	10.31	413.83	423.96	431.15	420.65
Transportation equipment	13.22	13.60	13.70	13.65	560.53	592.96	601.43	586.09
Motor vehicles and equipment	13.94	14.25	14.40	14.30	592.45	635.55	646.56	626.34
Instruments and related products	9.93	10.05	10.11	10.18	415.87	422.10	424.62	420.43
Miscellaneous manufacturing	7.97	8.09	8.17	8.18	310.83	321.17	324.35	322.29
Nondurable goods	9.32	9.53	9.61	9.64	374.66	385.97	390.17	385.68
Food and kindred products	9.06	9.16	9.26	9.29	366.93	374.64	379.66	375.32
Tobacco manufactures	13.79	14.43	14.57	14.43	548.57	581.53	579.89	549.78
Textile mill products	7.34	7.47	7.52	7.58	305.14	309.26	310.58	306.99
Apparel and other textile products	6.02	6.23	6.27	6.31	229.33	232.38	232.62	231.58
Paper and allied products	11.54	11.72	11.78	11.78	501.99	508.65	515.96	508.65
Printing and publishing	10.38	10.68	10.72	10.75	392.36	406.91	411.65	405.28
Chemicals and allied products	12.55	12.87	12.95	12.92	533.38	548.26	556.85	549.10
Petroleum and coal products	14.89	15.25	15.29	15.30	658.14	674.05	675.82	676.26
Rubber and misc. plastics products	9.00	9.22	9.28	9.37	376.20	386.32	390.69	390.73
Leather and leather products	6.16	6.42	6.43	6.50	231.62	240.11	245.63	245.70
Transportation and public utilities	12.16	12.46	12.42	12.50	474.24	489.68	490.59	488.75
Wholesale trade	9.78	10.05	10.12	10.23	370.66	381.90	386.58	389.76
Retail trade	6.24	6.43	6.41	6.47	176.59	185.18	189.10	185.84
Finance, insurance, and real estate	8.96	9.27	9.32	9.50	324.35	338.94	333.66	344.85
Services	8.81	9.10	9.15	9.26	285.44	295.75	297.38	300.95

1/ See footnote 1, table B-2.

p = preliminary.

Table B-4. Average hourly earnings of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry, seasonally adjusted

Industry	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/	Percent change from: Dec. 1988-Jan. 1989
Total private2/:							
Current dollars	$9.14	$9.37	$9.43	$9.42	$9.44	$9.50	0.6
Constant (1977) dollars3/	4.83	4.83	4.84	4.83	4.82	N.A.	(4)
Construction	12.91	13.04	13.03	13.01	13.09	$13.15	.5
Manufacturing	10.02	10.26	10.28	10.29	10.31	10.33	.2
Excluding overtime3/	9.57	9.78	9.81	9.83	9.85	9.87	.2
Transportation and public utilities	12.14	12.37	12.43	12.37	12.35	12.49	1.1
Wholesale trade	9.75	10.01	10.13	10.04	10.08	10.20	1.2
Retail trade	6.29	6.34	6.37	6.42	6.41	6.43	.3
Finance, insurance, and real estate	8.92	9.18	9.36	9.26	9.37	9.45	.9
Services	8.72	8.99	9.06	9.04	9.09	9.16	.8

1/ See footnote 1, table B-2.

2/ Includes mining, not shown separately, because its seasonal component is too small to be separated out with sufficient precision.

3/ The Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) is used to deflate this series.

4/ Change was -0.2 percent from November 1988 to December 1988, the latest month available.

5/ Derived by assuming that overtime hours are paid at the rate of time and one-half.

N.A. = not available.

p = preliminary.

ESTABLISHMENT DATA

Table B-5. Indexes of aggregate weekly hours of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

(1977=100)

Industry	Not seasonally adjusted				Seasonally adjusted					
	Jan. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/	Jan. 1988	Sept. 1988	Oct. 1988	Nov. 1988	Dec. 1988p/	Jan. 1989p/
Total private	119.5	127.7	128.9	124.7	125.8	126.8	127.1	127.1	127.2	128.5
Goods-producing industries	96.9	105.8	104.8	100.6	100.5	103.1	104.0	104.5	103.6	104.5
Mining	81.5	82.7	83.4	81.8	81.7	82.8	83.5	80.9	81.5	82.2
Construction	114.9	149.2	141.2	128.0	132.1	143.4	145.5	147.3	144.8	147.0
Manufacturing	94.2	98.5	98.7	96.2	95.2	96.5	96.9	97.2	96.6	97.3
Durable goods	92.0	96.8	97.4	94.8	92.7	94.6	95.2	95.6	95.0	95.6
Lumber and wood products	97.5	104.1	104.0	100.6	103.0	101.7	104.8	104.7	105.4	106.3
Furniture and fixtures	112.2	117.3	119.0	114.5	113.7	114.2	114.2	114.5	115.6	116.2
Stone, clay, and glass products	88.6	89.9	87.3	84.0	86.5	87.5	88.3	88.9	88.9	89.9
Primary metal industries	66.8	70.2	70.6	69.6	66.5	69.7	70.1	70.0	69.3	69.2
Blast furnaces and basic steel products	53.8	54.6	54.7	54.3	53.9	55.0	55.1	54.8	53.8	54.3
Fabricated metal products	90.5	95.9	96.3	94.1	90.9	95.1	93.6	94.6	93.6	94.7
Machinery, except electrical	90.4	94.7	97.0	94.8	90.8	93.2	93.7	94.3	94.3	94.5
Electrical and electronic equipment	102.8	105.5	106.3	103.1	102.2	103..	103.4	103.7	102.9	102.4
Transportation equipment	98.4	102.7	103.7	100.6	97.5	100.2	100.7	100.8	99.3	99.9
Motor vehicles and equipment	84.7	94.1	95.0	90.7	84.7	91.4	91.9	92.6	89.8	90.6
Instruments and related products	105.7	110.3	111.5	108.9	106.0	107.9	109.5	109.0	108.9	109.1
Miscellaneous manufacturing	80.3	87.5	85.0	82.5	83.4	84.2	83.1	83.6	83.6	85.7
Nondurable goods	97.5	101.1	100.7	98.4	99.8	98.7	98.4	99.7	99.1	100.0
Food and kindred products	98.1	105.5	102.7	99.8	102.2	100.1	102.7	103.3	102.0	103.4
Tobacco manufactures	79.7	77.0	75.5	70.2	77.2	69.1	69.7	72.7	69.4	68.0
Textile mill products	81.6	81.5	81.1	79.1	82.5	80.4	80.2	80.2	79.8	80.0
Apparel and other textile products	83.9	86.5	85.3	83.9	85.1	84.5	83.9	84.9	84.2	85.4
Paper and allied products	101.3	102.3	103.0	99.8	101.6	101.4	101.3	101.3	100.8	100.0
Printing and publishing	133.5	139.3	140.9	137.5	134.9	137.5	137.6	137.2	137.3	138.9
Chemicals and allied products	96.6	99.6	100.6	99.6	97.6	98.6	99.7	99.4	99.4	100.5
Petroleum and coal products	85.1	86.2	85.0	82.9	86.3	86.1	87.3	86.3	86.5	85.5
Rubber and misc. plastics products	121.1	127.1	127.8	126.5	120.9	123.9	124.7	126.0	125.2	126.5
Leather and leather products	56.0	56.3	56.9	56.0	57.5	55.8	56.4	55.1	56.0	57.3
Service-producing industries	131.9	139.8	142.2	138.1	135.5	138.7	139.9	139.6	140.2	141.7
Transportation and public utilities	109.8	116.3	117.2	114.8	112.6	114.6	115.0	115.2	116.0	117.8
Wholesale trade	120.4	127.9	129.0	128.1	122.2	126.9	127.6	127.7	128.1	129.9
Retail trade	119.0	128.8	134.1	123.8	126.8	125.7	127.2	126.7	127.3	129.1
Finance, insurance, and real estate	139.8	139.7	140.5	141.8	141.3	140.6	141.2	140.4	140.8	143.2
Services	152.6	162.5	163.8	161.8	156.5	162.8	163.5	163.2	164.8	164.9

1/ See footnote 1, table B-2.

p = preliminary.

ESTABLISHMENT DATA

Table B-6. Diffusion indexes of employment change, seasonally adjusted
(Percent)

Time span	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.
Private nonagricultural payrolls, 349 industries 1/												
Over 1-month span:												
1987	57.4	56.2	52.9	53.5	51.8	51.4	53.5	53.4	53.2	47.5	53.9	p/51.2
1988	53.2	54.4	54.9	53.5	54.9	54.3	53.5	54.5	53.2	54.5	53.9	
1989	p/48.9											
Over 3-month span:												
1987	61.2	62.8	67.1	59.2	59.1	59.8	71.8	72.9	73.1	72.5	p/73.2	p/69.2
1988			65.1				68.8	67.9	68.4	66.5		p/73.4
1989												
Over 6-month span:												
1987	62.8	66.3	66.2	70.1	72.2	73.2	76.9	77.9	p/78.9	p/73.8	74.4	79.4
1988	78.8	71.5	70.6	74.2	74.2	69.1	66.8	74.5				
1989												
Over 12-month span:												
1987	69.1	70.3	71.1	71.1	70.6	77.8	p/77.4	77.8	79.1	78.7	77.8	80.3
1988	77.2	76.1	74.2	73.9	73.8	p/73.9	p/77.2					
1989												
Manufacturing payrolls, 143 industries 1/												
Over 1-month span:												
1987	46.6	50.7	53.9	56.4	50.2	53.7	47.7	56.9	46.8	46.2	46.2	61.8
1988	58.2	56.7	53.7	50.4	57.4	51.5	49.5	46.8	46.8	41.7	46.1	p/52.8
1989	p/50.6											
Over 3-month span:												
1987	50.7	50.7	56.8	63.8	63.8	68.4	67.8	73.8	70.8	70.1	p/70.2	p/67.9
1988	65.8	61.8	62.8	64.5	64.7	66.8	61.5	62.1	65.5	63.6		p/69.1
1989												
Over 6-month span:												
1987	58.9	57.1	57.1	66.7	67.1	75.8	73.8	76.6	p/76.6	p/76.1	72.7	72.3
1988	68.4	67.8	66.8	70.9	66.8	63.8	62.1	68.8	p/63.4	p/63.4		
1989												
Over 12-month span:												
1987	69.4	69.5	66.5	68.8	73.8	75.8	p/79.2	75.2	75.9	75.9	75.2	79.1
1988	74.1	72.5	68.8	70.4	72.8	p/76.9	p/76.4					
1989												

1/ Based on seasonally adjusted data for 1-, 3-, and 6-month spans and unadjusted data for the 12-month span. Data are centered within the span.
p/ = preliminary.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment.

Representative HAMILTON. Thank you very much.

Let me ask you a question I guess I should know. What is seasonal adjustment? What does that mean?

Mrs. NORWOOD. What we try to do is to take account of the normal occurrences that happen each year with regularity and essentially separate out those specific seasonal movements from the basic trend and cycle of the data.

Representative HAMILTON. You apply some kind of a percentage, do you, to the gross figures?

Mrs. NORWOOD. It is a rather comprehensive process that is applied at very low levels of disaggregation in which we try to see these differences within the data. We have updated this method.

Representative HAMILTON. Does the formula vary for each month or season?

Mrs. NORWOOD. Yes. The factors used for each month in the current year are primarily based on the last 5 years of data. We update the factors every year to reflect changing seasonal patterns.

The point is that particularly in the month of June and the month of January massive labor market movements occur. In June the kids leave school and look for work. In January a lot of Christmas help leaves. The weather gets very cold. That happens every year in the same way and we would not want to be telling the world that we were entering into a recession because we have a couple of million people who are losing jobs or looking for work. That happens every year.

Nonetheless, for some purposes we need to know about actual movements and, as a result, we publish the data both before seasonal adjustment and after seasonal adjustment.

Representative HAMILTON. The employment gains you report for January were after seasonal adjustment. Do you also show job gains if you omit the seasonal adjustment factor?

Mrs. NORWOOD. No. Before seasonal adjustment in most cases there were employment declines. Normally, in January we have in the payroll survey a decline of about 2.4 million jobs and in the household survey about 1.9 million decline. We had less than that this year. So that after seasonal adjustment there was an increase.

Representative HAMILTON. Does the seasonally adjusted job gain mean that employment in January actually fell less than you would normally have expected.

Mrs. NORWOOD. Yes, exactly. But it fell.

Representative HAMILTON. It fell, yes. Is the rise in the teenage unemployment rate statistically important at all?

Mrs. NORWOOD. It is statistically significant.

Representative HAMILTON. Are there any changes in the economy that would suggest why that happened?

Mrs. NORWOOD. I would prefer to wait a few more months to see whether that holds up, both that and the unemployment rate for blacks. Those are very small groups of the population. The numbers are quite volatile. And though we don't like to see increases occur, I think we think we need some time series to know really what is happening.

Representative HAMILTON. Now, the number of people working part time declined. Is that an indication of strength in the economy?

Mrs. NORWOOD. Yes, it is, but I would also point out that that number seems to bounce up and down. It has now returned to the November level. It had gone up last month. We will have to wait and see what it does next month.

Representative HAMILTON. I have a question or two about the economic outlook and then I will turn to Senator Roth.

Do you see any sign at all in the economic indicators that the growth in the economy is slowing?

Mrs. NORWOOD. Our data today, which are the first for the month of January, suggest that the economy is growing quite nicely. The GNP data that were released for the last quarter and most of the other data for the last quarter suggest that we are continuing economic growth; but perhaps at a little slower rate than we have had, but still fairly steady growth.

These data on the labor market are the first data for the month of January.

Representative HAMILTON. Do you see any sign that the rate of inflation is accelerating?

Mrs. NORWOOD. There's always concern about the rate of inflation. There are no clear signs that we are moving into a period in which we have to be tremendously concerned, but we are seeing some increases in the price of commodities. We, of course, are always concerned about the price of oil which has a very important effect on our economy.

Representative HAMILTON. If you look at the major components of the Consumer Price Index—food, housing, transportation, medical care—are any of those bothering you significantly?

Mrs. NORWOOD. Medical care is now something like 11 percent of the gross national product. Health insurance cost are going up. It's an increasing cost to employers. We are seeing that in our employment cost index.

Representative HAMILTON. Would you expect that kind of a trend in health care to continue? You don't see any change?

Mrs. NORWOOD. Well, it doesn't appear so. I haven't seen anything to suggest a change right now. Mr. Dalton and I have met with a group of the major health care providers to see how we could perhaps develop some better data in this field. There are serious technical difficulties, of course, because of the new technology used in medical care. But I do believe that much more work needs to be done in this area and we are trying to develop plans for it.

Representative HAMILTON. Of the four areas I mentioned, you don't see any reason to expect inflation to rise more rapidly. Is that true?

Mrs. NORWOOD. Well, I think that inflation is already rising at almost a 4.5 percent a year rate. That may go up slightly. I don't see it rising to 10 percent very quickly, if that's what you mean. Perhaps Mr. Dalton would like to add something to that.

Mr. DALTON. I think that's a good point. It is rising at 4.4 percent per year. It did in 1988, which is the same as it did in 1987.

Representative HAMILTON. What I'm asking is whether you see anything in these various sections of the Consumer Price Index which would make you think that inflation is going to jump out above that 4.5 or 4.4 percent rate.

Mr. DALTON. I think the only thing that you could look at that might suggest something along those lines is the index excluding energy and food and shelter. You're left with about half of the index. That rose at an annual rate of 4.7 percent last year. That is noticeably higher than it has been running in the previous 4 or 5 years.

Representative HAMILTON. We had a sharp drop in energy costs, didn't we, in 1988; is that right?

Mr. DALTON. Well, we had a slight increase, following a very substantial increase in 1987. So energy was sort of a neutral factor.

Representative HAMILTON. In 1988?

Mr. DALTON. In 1988.

Representative HAMILTON. OK. Senator Roth.

Senator ROTH. Thank you, Mr. Chairman.

First, let me say it's always a pleasure to welcome Mrs. Norwood, particularly when she continues to bring good news.

I do have a written opening statement that I would ask be included in the record.

Representative HAMILTON. Without objection, it is so ordered.

[The written opening statement follows:]

WRITTEN OPENING STATEMENT OF SENATOR ROTH

IT GIVES ME GREAT PLEASURE TO JOIN IN WELCOMING COMMISSIONER NORWOOD BEFORE US TODAY.

ONCE AGAIN DR. NORWOOD BRINGS US GOOD NEWS. ACCORDING TO THE HOUSEHOLD SURVEY, 700,000 NEW JOBS WERE CREATED IN JANUARY. THE MONTH'S GAINS PUSH THE LEVEL OF CIVILIAN EMPLOYMENT TO 116.7 MILLION. MORE AMERICANS ARE WORKING NOW THAN EVER BEFORE. THE LONGEST PEACETIME EXPANSION IN U.S. HISTORY CONTINUES TO BENEFIT AMERICAN WORKERS.

THE EMPLOYMENT SURGE IN JANUARY PUSHED THE EMPLOYMENT-POPULATION RATIO--AN IMPORTANT MEASURE OF THE ECONOMY'S ABILITY TO CREATE ENOUGH JOBS--TO 62.9 PERCENT. THIS REPRESENTS A NEW RECORD HIGH.

ACCORDING TO THE BUSINESS PAYROLL SURVEY, EMPLOYMENT EXPANDED BY A STRONG 410,000. THE DIFFUSION INDEX SHOWS THAT 62.5 PERCENT OF ALL INDUSTRIES WERE INCREASING EMPLOYMENT IN JANUARY. AMONG MANUFACTURING INDUSTRIES, 59.9 PERCENT REPORTED HIGHER EMPLOYMENT.

FURTHERMORE, THE LION'S SHARE OF THE EMPLOYMENT INCREASE OVER THE LAST 12 MONTHS IS ACCOUNTED FOR BY MANAGERIAL AND PROFESSIONAL POSITIONS ALONG WITH PRECISION PRODUCTION, CRAFT, AND REPAIR OCCUPATIONS. IN OTHER WORDS, MOST OF THE NEW JOBS ARE GOOD JOBS. INCIDENTALLY, I'VE NOTICED THAT WE HAVEN'T HEARD TOO MANY ALLEGATIONS ABOUT ALL THE SUPPOSEDLY BAD JOBS SINCE LAST NOVEMBER.

I LOOK FORWARD TO DR. NORWOOD'S STATEMENT.

Senator ROTH. One followup question on inflation. One reads from time to time in the newspapers that various economists and others are concerned that we are at full employment or at such a level that it is going to bring about inflation.

Do you see that happening? In one sense we have created a lot of new jobs this month but because of the increase in the labor force we don't see any significant change in the unemployment rate, so that from the standpoint of inflation—I suppose that's the best of both worlds.

Mrs. NORWOOD. It is true that some parts of the country are experiencing considerable labor market tightness and in some areas and for some occupations it is very hard to find people with the skills that are needed at the level of wages that employers are willing to pay.

Senator ROTH. Do you include the Congress in that? You don't have to answer that.

Mrs. NORWOOD. I'd better not get started on that.

A good example is nurses. There is a serious shortage of nurses and of people who are willing to go into that occupation at the level of pay that nurses have. It's important I think in this issue of shortages to somehow take note that we are talking about a shortage at a given wage level. So I think that's one point.

Your specific question really is, do we see anything occurring. Well, there's a little bit of an increase in our employment cost index. It's just slightly under 5 percent over the year. A good portion of that is an increase in employer costs of fringe benefits. The Social Security costs went up last year as did health insurance costs. And those are the kinds of things that we really need to continue to watch it seems to me.

Senator ROTH. In the area of nurses, because there has been a shortage for some time, why hasn't the salary of nurses reflected the need for additional compensation?

Mrs. NORWOOD. I don't really know. There are a number of theories. There are those who feel that it's because it's a group that is primarily women. There are those who believe that nurses' salaries should be closer to physicians' salaries. There are those who feel that nurses salaries are held down because otherwise hospital costs would rise. There are a whole host of explanations.

But the fact remains that in the kind of economy we have, absent discrimination, it is generally supply and demand that determines whether or not we have shortages.

Senator ROTH. I guess that's really my question. Why aren't supply and demand forces working here?

Mrs. NORWOOD. There may be some other forces at work.

Senator ROTH. Mrs. Norwood, what are the fastest growing occupational categories over the last 12 months? What proportion of the net addition to employment was accounted by managerial and professional occupations?

Mrs. NORWOOD. It's a large proportion. It has been the professional, managerial, and technical jobs that are growing. We had an increase, for example, in managerial and professionals of more than a million over the year.

Senator ROTH. And there's also a fairly significant increase in manufacturing jobs; is that correct?

Mrs. NORWOOD. Yes. We had an increase in manufacturing jobs of 46,000 this month, 414,000 over the year.

Senator ROTH. Will we have the work force necessary in the coming years to meet the increasing demand for highly educated and skilled workers?

Mrs. NORWOOD. I think we have the people. Although we have a fairly high employment-population ratio—in fact, a record E-P ratio—there are still people outside the labor force—women, for example—who will probably be encouraged to come into the labor market. Also, we have a good deal of immigration still.

I think our problem is much more one of the need for people with particular skills in the area of the country where the need is. It's quite clear that the occupations of the future will require a good deal of training. They will require much more use of cognitive abilities. We are going to have much less of the continuing assembly line kinds of jobs and much more of the white collar managerial and professional and technical kinds of jobs. That requires people with training. Many of the people who are coming into the labor force are going to be minority, and the minority population of this country, unfortunately, does not seem to have had the same opportunity for getting the kind of education and skills that the jobs of the future are going to require.

So it seems to me that the imbalance that we will be seeing is much more a question of how to provide the people who are in the labor force with the skills we need, rather than how do we find more people to come into the labor force. I think it's a different kind of question and I think it's important to focus on that because, otherwise, what we are going to be seeing is that the tilt of occupations toward those requiring more training could exacerbate the problems that we have between those who are at the bottom of the income scale and those who are in a better position.

Senator ROTH. Let me ask one final question, Mr. Chairman.

One reads in the newspapers articles that we are not training enough engineers, that the contrast between what's going on in Japan in particular, but other countries as well, does not bode well for our future.

Would you care to comment on whether there is a serious problem and what could be done about it?

Let me just add one other thing. I have often wondered why we don't attract more women to this profession, I think there have been very few in the past.

Mrs. NORWOOD. The proportion of women is increasing in many of those occupations which have traditionally been thought to be reserved for men.

The shortage of engineers that people talk about is generally a shortage of engineers with particular specialties rather than engineers in general. And that gets back to the skill requirements issue. You may have a petroleum engineer who is not skilled as an aeronautical engineer, for example, and we may have a need for aeronautical engineers but perhaps we need fewer petroleum engineers.

So I think that that is the kind of problem that we face there.

What you refer to, however, is really a much more basic issue. That is the quality of our educational system. We see a great deal

in the news about how our students do not test as well as those in other countries. I can tell you that a couple of years ago I was in Japan in Tokyo at an international statistical meeting and I was extraordinarily impressed with an exhibit that was prepared by primary school children who had developed graphic information using statistical relationships. That's part of the educational system in Japan.

Now compare that to the mathematical education that occurs in the United States.

I think that it is problems of those kinds that we really need to address. For example, there is the whole literacy problem in this country. It is very difficult for a worker now, and it will be extraordinarily difficult for the worker in the future, who cannot read or write.

Senator ROTH. My time is up. Thank you, Mrs. Norwood.

Representative HAMILTON. Congressman Wylie.

Representative WYLIE. Thank you, Mr. Chairman.

Welcome, Mrs. Norwood, again. I would say that you will always be very welcome indeed when the news is so very positive.

Mrs. NORWOOD. I hope also at any other time.

Senator ROTH. Don't come if it's bad. [Laughter.]

Representative WYLIE. You will always be welcome. We are always glad to see you. How long have you been doing this now?

Mrs. NORWOOD. Well, more than 10 years.

Representative WYLIE. We'll leave it there.

Mrs. NORWOOD. A long time.

Representative WYLIE. To follow up on what Senator Roth said about the women in the working force, your statistics show that the employment-population ratio for adult women climbed to 55 percent in January. Is that the highest on record?

Mrs. NORWOOD. It is extraordinarily high. I'm not certain. I would expect that it probably would be. We could check that for you.

There are other countries, of course, which have even higher participation rates than we do for women.

Representative WYLIE. Our civilian unemployment rate is now 5.4 percent. How does that compare with France, Germany, the United Kingdom, and Italy?

Mrs. NORWOOD. The unemployment rates for the United States compare really quite favorably with those of other countries, particularly when adjusted to our concepts. We are lower than Canada. We are lower than France, Germany, Italy, and the United Kingdom. We have somewhat a higher unemployment rate than the Scandinavian countries and Japan.

Representative WYLIE. Now you made the point "when adjusted to our concepts." In your release here you say that civilian employment increased by 700,000 on a seasonally adjusted basis, but the civilian labor force rose by 870,000. The unemployment rate went up slightly, 0.1 of 1 percent, not very much.

How do you explain that increase in the labor force in January?

Mrs. NORWOOD. Well, as I said in my statement, I believe that some of the change in the household survey is really a catchup because the household survey has really been considerably behind—showing much less growth than the business survey for some time

now. So I would expect that some of that is a catchup. The household survey is a sample survey of about 60,000 households and it seems to move in fits and starts and we need to look at it over a longer period of time.

Representative WYLIE. What's the significance of the increase in the discouraged workers? Is that a catchup there, too? I noticed in one of the columns here that the discouraged worker group totals now 951,000. These are the people who have been unemployed for 28 weeks or more.

Mrs. NORWOOD. The number of long-term unemployed is about unchanged.

Representative WYLIE. So that didn't add to that figure?

Mrs. NORWOOD. No.

Representative WYLIE. OK. You noted in your statement that manufacturing employment was up for the 4th month—is that as a result of improved export performance?

Mrs. NORWOOD. To some extent, yes; although machinery manufacturing seems to be slowing a little bit. But a good bit of that—food manufacturing, for example, is probably more weather related than otherwise. Some of it was in fabricated metals and printing and publishing.

Representative WYLIE. Where do immigrants who make it across the Rio Grande and are brought into the labor force figure into these data?

Mrs. NORWOOD. Well, most of those would be tabulated as Hispanics. Their labor force has certainly been growing. It rose by a larger absolute number over the past year than the black labor force even though Hispanics are a much smaller population group than the blacks. We get information on the Hispanic population through our household survey and we are very careful in the household survey not to——

Representative WYLIE. You get it through the household survey rather than from the Immigration Service?

Mrs. NORWOOD. No, we do not get it from the Immigration Service. And we are very careful in the household survey not to ask people whether they are here legally or illegally. So we can't give you any information on that score. But we have been seeing a very large increase in the labor force participation of Hispanics and in the number of Hispanics in the labor force.

Representative WYLIE. Well, that would increase the unemployment rate and I would assume that in a lot of households they wouldn't answer the question as to whether there was someone here who was working or not.

Mrs. NORWOOD. There's always that possibility. I met recently with some of the people who do the interviewing—the representatives of the Census Bureau who conduct the survey for the Bureau of Labor Statistics—and I asked them questions about how they found people in the household. We always have a concern about whether we are getting information about all of the people in the household, in part because of some of our welfare programs where it may be wise for people not to show up. The interviewers seemed to have some rather good techniques for trying to gather that information and to develop a rapport with the people who are in the survey.

We are very careful about the confidentiality of the information and they seem to understand that. So I think we do a pretty good job of it. I cannot tell you, however, that we get everybody and that we miss no one. I'm sure that's not so. But I can tell you that we work very hard on that.

Representative WYLIE. I'm sure you do. But you are reasonably confident that your measures of employment and unemployment are fairly accurate and reflective of the true situation?

Mrs. NORWOOD. Yes, I believe they are. We are, as I've told this committee, in the process of developing plans for a redesign of the current population survey so that we can incorporate the findings of the 1990 census. And we hope to bring about some improvements there and we also have underway at the BLS some rather intriguing work in our collection procedures research laboratory to try to find out whether people actually understand the questions we are asking.

Representative WYLIE. Just one final question, Mr. Chairman.

Mrs. Norwood, we're in what consecutive month of this expansion?

Mrs. NORWOOD. The 74th month of data. It would be the 75th month in February.

Representative WYLIE. How many jobs have been created during that time?

Mrs. NORWOOD. 19.4 million in the business survey and about 17.6 million in the household survey.

Representative WYLIE. And how does that compare with the 1975–79 recovery period?

Mrs. NORWOOD. Very well. Of course, we have a much larger population and a much larger labor force. So we really ought to look at it in terms of the percentage.

Mr. PLEWES. I'd have to compute that.

Mrs. NORWOOD. It's very good job performance. Using business survey data, employment has grown by about 22 percent during the current expansion; it was 19 percent during the 1975–79 expansion.

Representative WYLIE. Thank you very much.

Thank you, Mr. Chairman.

Representative HAMILTON. Thank you, Congressman Wylie.

I'll give Senator Bryan a few minutes here to check on matters, if it's all right, or are you prepared?

Senator BRYAN. You proceed, Mr. Chairman.

Representative HAMILTON. I'll just ask a question or two.

You just released this week a survey on union membership.

Mrs. NORWOOD. Yes.

Representative HAMILTON. What does it tell us? What are the important things about it? What happened and what is happening in union membership?

Mrs. NORWOOD. Union membership is not growing. It is now about 17 percent of the work force and a lot of that is in government—State, local, and Federal.

In the private sector, only about 13 percent of the work force is unionized.

I think part of what's happening is that the unions have traditionally been very strong in some of the heavy manufacturing in-

dustries where recent employment growth has been relatively weak. They have traditionally not been as strong among professional workers, technical workers, and the kinds of services industries that have been growing very fast.

Representative HAMILTON. So the unionized industries are the industries that are growing more slowly; is that right?

Mrs. NORWOOD. Those that have traditionally been the strongest have been growing less.

Representative HAMILTON. Now the fact that a lot of women and younger people and minorities have come into the market I suppose affects this, too, doesn't it?

Mrs. NORWOOD. Yes.

Representative HAMILTON. On your statistical information on employment, the payroll survey shows a different figure than the household survey on job gains. In 1988 it was 3.7 million for the payroll survey and 2.3 million for the household survey.

Why do you have such a big discrepancy and which of the two is the better figure?

Mrs. NORWOOD. I don't know why we have such a big discrepancy. I wish I did.

Representative HAMILTON. That's a huge discrepancy.

Mrs. NORWOOD. Yes. Now some of that is accounted for by the differences in definition in those surveys. The household survey has a different definition. It's based on a person concept, whereas the payroll survey has a jobs concept. It may be that more people than before have more than one job. If there has been an increase in multiple job holding, we would see a bigger increase in the business survey, also called the payroll survey because it counts every person on a payroll, and if someone works for two different companies that person is counted twice. In the household survey, that person is counted only once. That may account for some of the difference.

Representative HAMILTON. What is your instinct as to the sounder number?

Mrs. NORWOOD. My instinct is that the household survey is underestimating employment quite a bit. I also think that the payroll survey is probably overestimating a little. But we will know that because we have a benchmark when we get the total universe.

I believe that the payroll survey is a better indicator of where the economy is going.

Representative HAMILTON. The payroll survey?

Mrs. NORWOOD. Yes, in this case.

Representative HAMILTON. An instruction was put in one of the appropriations bills for BLS to review the wage survey for Federal pay comparability. Can you give us an update on where we stand on that?

Mrs. NORWOOD. We're working quite hard to expand that work. We have made a number of changes in our pay comparability survey. One of the things that we've done is to try to expand the coverage of that survey. We are looking at ways to integrate our surveys so that we can get more information on more jobs more cheaply.

Representative HAMILTON. When will it be completed?

Mrs. NORWOOD. 1992.

Representative HAMILTON. Have any parts of it been implemented?

Mrs. NORWOOD. Yes. Certainly they have. Mr. Stelluto, do you want to talk to that?

Representative HAMILTON. Will you please identify yourself for the record.

Mrs. NORWOOD. This is George Stelluto, our Associate C mmissioner for—we've changed the name—it used to be Wages and Industrial Relations; it's now Compensation and Working Conditions.

Representative HAMILTON. That's all right. I can't keep the subcommittees straight here either.

Mr. STELLUTO. In August 1987, we sent a report to Congress outlining a plan to expand the programs we had in place to a broad-based survey of white collar pay and benefits. There was going to be expansion in the industrial coverage and the types of jobs we cover. Over the past 2 years we have expanded our industrial coverage and included smaller sized establishments in the survey.

For example, we are now in the field with a white-collar survey of all establishments with 50 or more workers in the private service-producing industries. When we finish that survey this summer we will combine its results with that of a survey that we did last year which we updated by using our employment cost index. By bringing those two surveys together, we will have information that covers all private industry, firms, or establishments of at least 50 workers.

Representative HAMILTON. And you expect to fully implement this wage study when?

Mr. STELLUTO. 1992.

Representative HAMILTON. But it's being implemented in phases?

Mrs. NORWOOD. That's correct.

Mr. STELLUTO. We are bringing in some of the existing programs we had. We had our national survey on professional, administrative, technical, and clerical pay. That's in there. We have a survey of employee benefits. We also have the employment cost index which is one of our broad-based programs.

So we're bringing these programs together. It's going to take about 5 years.

Mrs. NORWOOD. I think basically the problem is that we needed to expand the coverage. It had been just large establishments which excluded a lot of the work force. We needed to expand the coverage to smaller establishments, to the service-producing sector, and we needed to include more different kinds of white-collar jobs. And that's essentially what we're doing, as well as trying to get fringe benefit costs to the employers as well as the wage data and salary data.

Representative HAMILTON. Thank you very much.

Senator Bryan.

Senator BRYAN. Thank you very much, Mr. Chairman. I apologize for being late. I had a previous commitment.

If this question and the followup question have been asked, please don't hesitate to indicate. I'm not trying to belabor the record.

Mrs. Norwood, my question is that we've heard a good bit of discussion on the Hill in the last few weeks about the question of in-

flation. Mr. Greenspan, as you know, has testified that he apprehends that inflation is about to burst forth in the land and at least the impression is given that we are in the cycle now in which we need to be very sensitive to that and interest rates are responding accordingly. There's great concern in some quarters that the Federal Reserve might increase the interest rates further.

President Bush, on the other hand, has been quoted as indicating that that ought not to be the focus of our concern at this point, that everything is going along rather well, and that to increase interest rates would choke off the recovery.

Could you give us your assessment? Is inflation about ready to burst forth in the land or are we in pretty good condition?

Mrs. NORWOOD. All that I can tell you is what I see in our various price indexes. I don't think that I read Alan Greenspan's statement as saying that inflation was really ready to burst forth.

Representative WYLIE. Would the gentleman yield?

Senator BRYAN. Yes.

Representative WYLIE. He came before the House Banking Committee and he didn't say that inflation was about to burst forth across the land. He said it's something we need to pay attention to, but I would not say that that modification agrees with his testimony.

Senator BRYAN. As is so often the case, when you get the report in the news media, pretty clearly there is at least portrayed publicly a difference of focus or emphasis between what Mr. Greenspan has said and what the President said. I'm not trying to develop that dialog further other than to develop from you your opinion in terms of where we are in inflation.

Mrs. NORWOOD. Well, all that I can say is that we have now at the consumer price level an inflation rate that is close to 4.5 percent a year. That is about the rate that we had when Mr. Nixon, as President, decided that inflation was going up so much that he had to institute price controls.

I think our expectations have changed since then. There are some worrying signs and we have discussed them with the chairman before. We are seeing something like a 5-percent rate of increase in compensation costs, including the cost to employers of fringe benefits.

So, while these measures are still not bursting out into double-digit range, they do bear watching. There's no doubt about that, particularly for some sectors of the economy.

Senator BRYAN. What ought we to be doing about it at this point, if anything?

Mrs. NORWOOD. Well, I leave the policy determinations to those who have that responsibility. I think they are much better able to do it than I.

Senator BRYAN. Do you have any advice based upon your own expertise and background? Is there something that the Congress ought to be doing?

Mrs. NORWOOD. I think that there are others who can give you policy advice. What I can tell you is that we have a continuing rate of inflation of about 4.5 percent. There are some signs that underlying that is a pickup, particularly in the area of health care and

some commodities, which are going up at a little bit higher rate than the overall average. It's still not out of hand, but it's there.

Senator BRYAN. Can you share with us what your projections are? Where do you think we're going to be 6 months down the road on the rate of inflation?

Mrs. NORWOOD. There is a tremendous forecasting industry in this country and we just don't like to compete with them.

Senator BRYAN. I was going to give you an opportunity to get into a new business here.

Let's talk for just a moment about productivity. It seems from what we read that the rate of productivity is slowing. What accounts for that?

Mrs. NORWOOD. I think that what we are seeing is still continued growth of productivity, especially in manufacturing because we are looking at labor productivity and so our output is continuing. We are not adding a lot of people to our payroll. We had about a 400,000 increase in manufacturing jobs over the last year. We are keeping wage costs down and, as a result, both productivity and manufacturing unit labor costs are holding fairly well.

The rest of the economy is not doing as well or perhaps I should say the economy as a whole because we don't separate out the rest of the economy. And we are not sure that we understand all of the reasons for that. It's quite clear that there are a very large difference among industries in the service-producing sector. Some of them have very high productivity levels and others have somewhat lower ones.

Senator BRYAN. Mr. Chairman, thank you very much.

Representative HAMILTON. Senator, we are delighted to have you join the Joint Economic Committee.

Mrs. Norwood, how critical for your work is the census?

Mrs. NORWOOD. Very critical. The population data from the census are used in the sampling and estimating process for all the household surveys in the entire government, including our current population survey, which measures employment. So it is extremely important there.

In addition, we use the data from the census for a variety of other things. The data on housing, for example, is used as input into the Consumer Price Index.

Representative HAMILTON. Do you get the information from the Census Bureau quickly enough?

Mrs. NORWOOD. Well, we would always like to get it more quickly, but it's a mammoth job that they have to do and it takes them a long time to get it out. They are hoping to get it done more rapidly this time around.

Representative HAMILTON. The census is taken in 1990. When would you get the figures to use in your work?

Mrs. NORWOOD. Several years later.

Representative HAMILTON. Two or three?

Mrs. NORWOOD. Some of it. The population controls for the current population survey would probably be introduced about 3 years afterwards.

Representative HAMILTON. Do you favor a middecade census?

Mrs. NORWOOD. Yes, I do.

Representative HAMILTON. Why?

Mrs. NORWOOD. For several reasons. One is because it would help us a lot because the Congress seems to need those data. A lot of laws that are passed require information about the people of this country, particularly specific demographic groups such as minorities, in local areas. There's no way to get valid data for local areas by sex and by race and by occupation, for example, though relatively small sample surveys.

Representative HAMILTON. Didn't we pass a law requiring a mid-decade census?

Mrs. NORWOOD. I believe there is an authorization.

Representative HAMILTON. Whatever happened to that?

Mrs. NORWOOD. There was never an appropriation.

One other point is that I think it is terribly important for the Census Bureau to be experimenting with better ways to do the decennial census, and the best way to do that is to carry out a different kind of census in between the 10-year period.

Representative HAMILTON. Congressman Wylie.

Representative WYLIE. Mr. Chairman, I have just one final question.

On the bottom of this release it says the civilian labor force rose by 870,000 after seasonal adjustment to 123.4 million. As a result, the labor force participation rate also was at a record level, 66.5 percent.

Do we have information on the activities and attitude of the 33.5 percent of the population not included in that labor force?

Mrs. NORWOOD. We have some information about the people outside of the labor force and sometimes special surveys are done to find out more about them. Clearly, we don't have as much information about them as we would like or about their interest in coming into the labor force. That's a very difficult thing to get at. We really could use more information on what would constitute a labor reserve in this country, people who might come into the labor force under certain conditions.

The difficulty is that you have to define those conditions and I don't know quite what they would be and we have found that attempts in the past have not been very successful.

Representative WYLIE. Are there general characteristics? You've sort of answered that question and it's difficult to come by that data.

Mrs. NORWOOD. They are more likely to be female and minority. Some of that is due to discouragement because of the lack of skills or geographic location. There are also retirees, which is a growing group and housewives which is a shrinking group.

Representative WYLIE. But the percentage of persons with lack of skills in that 33.5 percent, that information is hard to come by?

Mrs. NORWOOD. Yes. Of course, we should also remember that some of those people are in school. That's a good thing.

Representative WYLIE. Thank you.

Representative HAMILTON. Mrs. Norwood, you know the ongoing interest of the Joint Economic Committee in the accuracy and quality of Federal statistics, and I'll not ask you any questions. But I would appreciate it if some of your people would be willing to meet with our staff, so that we could get an impression from you and from them about the quality of statistics that are produced by

the Federal statistical agencies and what we can do about it to be helpful, if they're a problem.

Mrs. NORWOOD. We would be delighted to do that and I would be delighted to meet with them myself.

Representative HAMILTON. All right. Very good. We appreciate that. Thank you very much for your appearance this morning from you and your colleagues, and we stand adjourned.

[Whereupon, at 10:25 a.m., the committee adjourned, subject to the call of the Chair.]

EMPLOYMENT-UNEMPLOYMENT

FRIDAY, MARCH 10, 1989

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The committee met, pursuant to notice, at 9:43 a.m., in room 2359, Rayburn House Office Building, Hon. Stephen J. Solarz (member of the committee) presiding.

Present: Representatives Solarz and Upton.

Also present: William Buechner, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE SOLARZ, PRESIDING

Representative SOLARZ. Let me first of all apologize to those who are waiting for not being here right on time, but there was the worst traffic I have seen in a long time. I had allotted myself an extra 15 minutes, and obviously that was not sufficient. I regret the fact that you had to wait on my account.

On behalf of the members of the Joint Economic Committee, I am pleased to welcome Janet Norwood, Commissioner of the Bureau Labor Statistics, who is here this morning to testify on the February employment and unemployment figures.

From what I heard on the radio coming in this morning, it sounds like the news will be good. According to the Employment Situation press release issued this morning by the Bureau of Labor Statistics, employment continued to rise in February and the unemployment rate fell to 5.1 percent, the lowest unemployment rate since May 1974. Unemployment declined among all labor market groups, with teenagers and Hispanic workers showing the greatest improvement.

In February, payroll employment also rose by 289,000. All the growth was in service-producing industries, while construction and manufacturing showed small declines. Since December, the household and payroll surveys have reported employment increases of 700,000 to 800,000. This is well above the rate of job growth reported during 1988 and suggests that the growth of the economy has not begun to slow.

Before calling on Commissioner Norwood for her analysis of the February employment and unemployment figures, I would like to yield at this time to my good friend, Congresssman Upton.

OPENING STATEMENT OF REPRESENTATIVE UPTON

Representative UPTON. Thank you.

It gives me great pleasure to join in welcoming Commissioner Norwood before the committee this morning. We are always glad to see her, especially when she brings such good news. The remarkable performance of the U.S. economy has once again reduced the civilian unemployment rate. According to the household survey, the February decline of three-tenths of a percentage point pushed the unemployment rate down to 5.1 percent.

While some may fear such a low unemployment rate, I think it is a good sign of solid economic growth. If we are now at full employment, it should be regarded as a positive, not a negative.

If I can be parochial for just a moment, I would like to note that the decline in the Michigan unemployment rate to 6.1 percent, while still too high, is good news. We have made some progress in reducing unemployment in my home State.

The national employment-population ratio, an important measure of the economy's ability to create enough jobs remained at its record high of 62.9 percent. Employment climbed in February to 116.9 million. More Americans are working today than ever before. According to the establishment survey, 290,000 jobs were created during the month of February. This well-regarded, coincident indicator shows that economic growth is still strong enough to sustain healthy jobs needs. We are all pleased to see that healthy job growth has reduced the unemployment rate to its current level.

However, continued economic growth is needed to further extend the benefits of employment to the poor and the disadvantaged. Let's not let a 1-month blip in inflation measures hit the panic button and risk more economic advancement for our neediest citizens.

Thank you, Mr. Chairman.

Representative SOLARZ. Thank you, Congressman Upton.

Mrs. Norwood, please proceed.

STATEMENT OF HON. JANET L. NORWOOD, COMMISSIONER, BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, ACCOMPANIED BY KENNETH V. DALTON, ASSOCIATE COMMISSIONER, OFFICE OF PRICES AND LIVING CONDITIONS; AND THOMAS J. PLEWES, ASSOCIATE COMMISSIONER, OFFICE OF EMPLOYMENT AND UNEMPLOYMENT STATISTICS

Mrs. NORWOOD. Thank you. I have here with me at the table, on my right, Kenneth Dalton and on my left, Thomas Plewes. We are very pleased to be here.

Unemployment declined in February, and employment rose. Both the overall and the civilian worker jobless rates fell three-tenths of a percentage point to 5.1 percent, and we are about half a percentage point lower than a year earlier.

After declining to a 14-year low by mid-1988, the rate had shown little improvement through January. Many wondered whether it was impossible for the rate to decline any further or whether the labor market had already expanded as far as it could go.

February's decline is important, but the improvement was most evident among groups whose jobless rates tend to behave somewhat erratically. Thus, we need another month or so of data to determine whether this single month's phenomenon will be sustained.

February's decline in unemployment occurred almost exclusively among youth 16 to 24 years of age. Joblessness for men and women 25 years and over changed very little. In the case of teenagers, the drop of 1.6 percentage points represented a return to December's rate of 14.8 percent. For young adults, 20- to 24-year-olds, the jobless rate declined from 9.3 to 8.1 percent.

An unusually large over-the-month decline in unemployment also occurred among Hispanics. Although they comprise only 7.5 percent of the Nation's work force, they accounted for nearly 40 percent of February's improvement in unemployment.

As we have often discussed, sudden movements in these more volatile series are frequently followed by similar movements in the opposite direction. The Hispanic jobless situation may well have improved, but additional data are needed to determine whether the February decline will be sustained.

Other February indicators tended to confirm the improvement in unemployment. Both measures of average duration of unemployment—both the mean and the median—fell to the lowest levels since 1980. The February data show that half of all unemployed persons have been jobless for less than 5 weeks.

Nevertheless, despite some February improvement, many jobless persons continue to have very long periods of unemployment; 1 in 5 were unemployed for 15 weeks or more, and 1 in 10 were jobless for 6 months or more.

On the employment side, the number of payroll jobs, as reported in our business survey, rose by 290,000 from January to February. Unlike recent months when a sizable proportion of over-the-month employment gains occurred in the goods-producing sector, the February gain was limited to the service-producing sector. The services industry itself accounted for 130,000 of the total payroll job gain; this followed a smaller-than-usual increase in January. Employment also rose markedly in wholesale and retail trade.

As I mentioned above, goods-producing sector jobs did not increase in February. Extremely harsh weather in much of the country contributed to a small seasonally adjusted decline in the construction industry, which had registered very large job gains in January when the weather was unseasonably mild. Employment in mining continued its recent pattern of small declines; led by job losses in oil and gas extraction, mining jobs were down about 25,000 since last summer.

The number of manufacturing jobs changed very little in February, after increasing by 245,000 over the prior 4 months. Little movement occurred in most of the individual manufacturing industries, but automobile factory payrolls dropped by 15,000 jobs, after having risen by a similar magnitude in January. And both the factory workweek and overtime remained unchanged.

The household survey showed a more modest employment gain, following on the heels of an increase of some 700,000 in January. As I indicated to the committee last month, I believe that the January increase was probably overstated. The February change in the household surveys seems somewhat understated. In view of this volatility, we really should use a longer time period for analysis. Over the past 3 months, both surveys have increased by an average of 300,000 per month. However, during most of 1988, the business

survey has shown much greater job growth than the household survey.

So, in summary, unemployment declined from January to February, primarily among young persons under the age of 25 and Hispanics. Employment continued to expand, with all of the growth in the service-producing sector, and the proportion of the civilian population with jobs remained at a record high.

We would be glad, Mr. Chairman, to try to answer any questions you have.

[The table attached to Mrs. Norwood's statement, together with the Employment Situation press release, follows:]

Unemployment rates of all civilian workers by alternative seasonal adjustment methods

Month and year	Unadjusted rate	X-11 ARIMA method						X-11 method (official method before 1980)	Range (cols. 2-8)
		Official procedure	Concurrent (as first computed)	Concurrent (revised)	Stable	Total	Residual		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1988									
February....	6.2	5.7	5.7	5.7	5.8	5.7	5.6	5.7	.2
March.....	5.9	5.6	5.6	5.6	5.7	5.6	5.5	5.6	.2
April.....	5.3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-
May.....	5.4	5.6	5.6	5.6	5.6	5.6	5.7	5.6	.1
June.....	5.5	5.4	5.4	5.4	5.3	5.4	5.4	5.3	.1
July.....	5.5	5.4	5.4	5.5	5.4	5.5	5.5	5.4	.1
August.....	5.4	5.6	5.6	5.6	5.5	5.6	5.6	5.6	.1
September...	5.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4	-
October.....	5.0	5.3	5.3	5.3	5.3	5.3	5.4	5.3	.1
November....	5.2	5.4	5.4	5.3	5.4	5.3	5.4	5.4	.1
December....	5.0	5.3	5.3	5.3	5.3	5.3	5.4	5.4	.1
1989									
January.....	6.0	5.4	5.4	5.4	5.5	5.4	5.3	5.5	.2
February....	5.6	5.1	5.2	5.2	5.2	5.2	5.0	5.2	.2

SOURCE: U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics
March 1989

(1) Unadjusted rate. Unemployment rate for all civilian workers, not seasonally adjusted.

(2) Official procedure (X-11 ARIMA method). The published seasonally adjusted rate for all civilian workers. Each of the 3 major civilian labor force components--agricultural employment, nonagricultural employment and unemployment--for 4 age-sex groups--males and females, ages 16-19 and 20 years and over--are seasonally adjusted independently using data from January 1974 forward. The data series for each of these 12 components are extended by a year at each end of the original series using ARIMA (Auto-Regressive, Integrated, Moving Average) models chosen specifically for each series. Each extended series is then seasonally adjusted with the X-11 portion of the X-11 ARIMA program. The 4 teenage unemployment and nonagricultural employment components are adjusted with the additive adjustment model, while the other components are adjusted with the multiplicative model. The unemployment rate is computed by summing the 4 seasonally adjusted unemployment components and calculating that total as a percent of the civilian labor force total derived by summing all 12 seasonally adjusted components. All the seasonally adjusted series are revised at the end of each year. Extrapolated factors for January-June are computed at the beginning of each year; extrapolated factors for July-December are computed in the middle of the year after the June data become available. Each set of 6-month factors are published in advance, in the January and July issues, respectively, of Employment and Earnings.

(3) Concurrent (as first computed, X-11 ARIMA method). The official procedure for computation of the rate for all civilian workers using the 12 components is followed except that extrapolated factors are not used at all. Each component is seasonally adjusted with the X-11 ARIMA program each month as the most recent data become available. Rates for each month of the current year are shown as first computed; they are revised only once each year, at the end of the year when data for the full year become available. For example, the rate for January 1984 would be based, during 1984, on the adjustment of data from the period January 1974 through January 1984.

(4) Concurrent (revised, X-11 ARIMA method). The procedure used is identical to (3) above, and the rate for the current month (the last month displayed) will always be the same in the two columns. However, all previous months are subject to revision each month based on the seasonal adjustment of all the components with data through the current month.

(5) Stable (X-11 ARIMA method). Each of the 12 civilian labor force components is extended using ARIMA models as in the official procedure and then run through the X-11 part of the program using the stable option. This option assumes that seasonal patterns are basically constant from year-to-year and computes final seasonal factors as unweighted averages of all the seasonal-irregular components for each month across the entire span of the period adjusted. As in the official procedure, factors are extrapolated in 6-month intervals and the series are revised at the end of each year. The procedure for computation of the rate from the seasonally adjusted components is also identical to the official procedure.

(6) Total (X-11 ARIMA method). This is one alternative aggregation procedure, in which total unemployment and civilian labor force levels are extended with ARIMA models and directly adjusted with multiplicative adjustment models in the X-11 part of the program. The rate is computed by taking seasonally adjusted total unemployment as a percent of seasonally adjusted total civilian labor force. Factors are extrapolated in 6-month intervals and the series revised at the end of each year.

(7) Residual (X-11 ARIMA method). This is another alternative aggregation method, in which total civilian employment and civilian labor force levels are extended using ARIMA models and then directly adjusted with multiplicative adjustment models. The seasonally adjusted unemployment level is derived by subtracting seasonally adjusted employment from seasonally adjusted labor force. The rate is then computed by taking the derived unemployment level as a percent of the labor force level. Factors are extrapolated in 6-month intervals and the series revised at the end of each year.

(8) X-11 method (official method before 1980). The method for computation of the official procedure is used except that the series are not extended with ARIMA models and the factors are projected in 12-month intervals. The standard X-11 program is used to perform the seasonal adjustment.

Methods of Adjustment: The X-11 ARIMA method was developed at Statistics Canada by the Seasonal Adjustment and Times Series Staff under the direction of Estela Bee Dagum. The method is described in The X-11 ARIMA Seasonal Adjustment Method, by Estela Bee Dagum, Statistics Canada Catalogue No. 12-564E, February 1980.

The standard X-11 method is described in X-11 Variant of the Census Method II Seasonal Adjustment Program, by Julius Shiskin, Allen Young and John Musgrave (Technical Paper No. 15, Bureau of the Census, 1967).

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Technical information: (202) 523-1371
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Media contact: 523-1913

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THE EMPLOYMENT SITUATION: FEBRUARY 1989

Employment continued to increase in February and unemployment declined, the Bureau of Labor Statistics of the U.S. Department of Labor reported today. Both the overall and the civilian worker unemployment rates were 5.1 percent, down from 5.4 percent in January.

Nonagricultural payroll jobs, as measured by the survey of business establishments, rose by 290,000 in February, with the gains confined to the service-producing industries. Total civilian employment, as measured by the household survey, rose only slightly, following a very large gain in January.

Unemployment (Household Survey Data)

The number of unemployed persons dropped to a seasonally adjusted level of 6.3 million in February. As a result, the civilian worker unemployment rate fell to 5.1 percent, the lowest since May 1974. The rate was 5.3 or 5.4 percent in the prior 5 months. (See table A-2.)

The February decline in unemployment was limited essentially to youth 16-24 years of age. The rate for teenagers dropped by 1.6 percentage points to 14.8 percent, after rising by the same magnitude in January, and the 20-24 young adult rate fell 1.2 points to 8.1 percent. There was little change among adults 25 years and over. The unemployment rate for Hispanics, which often fluctuates from month to month, fell by 1.6 percentage points to 6.8 percent. The rate for white workers (4.3 percent) also declined, while that for blacks (11.9 percent) was about unchanged. (See tables A-2, A-3, and A-9.)

The unemployment decrease in February occurred among persons jobless for more than 5 weeks. The proportion jobless for 27 weeks and over fell to 10 percent of the unemployed, the lowest in nearly 9 years. Both the mean (average) and median duration of unemployment declined--to 12.1 and 5.3 weeks, respectively. The number of unemployed persons who had lost their jobs also dropped over the month to 2.9 million. (See tables A-7 and A-8.)

Civilian Employment and the Labor Force (Household Survey Data)

Following a large increase in January, civilian employment rose only slightly in February, to a seasonally adjusted level of 116.9 million. The proportion of the population with jobs (the employment-population ratio) held at the record high level of 62.9 percent attained in the previous month. (See table A-2.)

The civilian labor force, which had also increased markedly in January, showed a small decline in February. As a result, the labor force participation rate edged down to 66.3 percent. Over the year, the labor force expanded by about 2.0 million. (See table A-2.)

Table A. Major indicators of labor market activity, seasonally adjusted

Category	Quarterly averages		Monthly data			Jan.-Feb. change
	1988		1988	1989		
	III	IV	Dec.	Jan.	Feb.	
HOUSEHOLD DATA						
	Thousands of persons					
Labor force 1/	123,570	124,084	124,259	125,124	124,865	-259
Total employment 1/	116,892	117,539	117,705	118,407	118,537	130
Civilian labor force	121,881	122,388	122,563	123,428	123,181	-247
Civilian employment	115,202	115,843	116,009	116,711	116,853	142
Unemployment	6,678	6,545	6,554	6,716	6,328	-388
Not in labor force	62,959	62,865	62,839	62,216	62,596	380
Discouraged workers	941	951	N.A.	N.A.	N.A.	N.A.
	Percent of labor force					
Unemployment rates:						
All workers 1/	5.4	5.3	5.3	5.4	5.1	-0.3
All civilian workers	5.5	5.3	5.3	5.4	5.1	-.3
Adult men	4.7	4.7	4.7	4.6	4.5	-.1
Adult women	4.9	4.7	4.7	4.7	4.5	-.2
Teenagers	15.3	14.6	14.8	16.4	14.8	-1.6
White	4.8	4.6	4.6	4.6	4.3	-.3
Black	11.2	11.3	11.6	12.0	11.9	-.1
Hispanic origin	8.0	7.8	7.6	8.4	6.8	-1.6
ESTABLISHMENT DATA						
	Thousands of jobs					
Nonfarm employment	106,478	107,344	107,641	p108,056	p108,345	p289
Goods-producing	25,650	25,827	25,889	p26,044	p26,012	p-32
Service-producing	80,828	81,517	81,752	p82,012	p82,333	p321
	Hours of work					
Average weekly hours:						
Total private	34.7	34.8	34.7	p34.8	p34.7	p-0.1
Manufacturing	41.1	41.1	40.8	p41.0	p41.0	p0
Overtime	3.9	3.9	3.9	p3.9	p3.9	p0

1/ Includes the resident Armed Forces. N.A.-not available.
p-preliminary.

Industry Payroll Employment (Establishment Survey Data)

Total nonagricultural employment increased by 290,000 in February, after seasonal adjustment, to a level of 108.3 million. This followed an increase of 415,000 in January. The February gain was confined to the service-producing sector; employment in the goods sector decreased slightly, largely because of a weather-related decline in construction. (See table B-1.)

In the service-producing sector, the services industry led the over-the-month gains with an employment increase of 130,000. Within services, employment in the health services component rose by 45,000, and business services, which had declined in January, rebounded by 40,000. Elsewhere in the sector, retail trade added 75,000 jobs, and wholesale trade, with an increase of 30,000, continued its pattern of strong job growth.

In the goods-producing sector, the construction industry, which posted a very large increase in January, lost 20,000 jobs in February. This swing in construction employment probably reflects the shift in weather conditions from unusually mild to harsh over the 2 months. Employment in manufacturing, which had been increasing since September, showed little movement in February. The only sizable change was a decline of 15,000 in auto employment; this followed a similar increase in the prior month. In mining, employment was also about unchanged over the month.

Weekly Hours (Establishment Survey Data)

The average workweek for production or nonsupervisory workers on private nonagricultural payrolls edged down by 0.1 hour to 34.7 hours in February, after seasonal adjustment, while both the factory workweek and overtime were unchanged at 41.0 and 3.9 hours, respectively. (See table B-2.)

The index of aggregate weekly hours of production or nonsupervisory workers on private nonagricultural payrolls, at 127.9 (1977=100), declined by 0.3 percent, seasonally adjusted. The index for manufacturing, at 97.2, showed little change. (See table B-5.)

Hourly and Weekly Earnings (Establishment Survey Data)

Both average hourly and average weekly earnings of private production or nonsupervisory workers were little changed in February, after seasonal adjustment, following large increases in January. Prior to seasonal adjustment, average hourly earnings remained at $9.54, and average weekly earnings declined by $1.91 to $327.22. Hourly earnings rose by 4.0 percent over the past year, and weekly earnings were up 3.4 percent. (See tables B-3 and B-4.)

The Employment Situation for March 1989 will be released on Friday, April 7, at 8:30 A.M. (EST).

Explanatory Note

This news release presents statistics from two major surveys, the Current Population Survey (household survey) and the Current Employment Statistics Survey (establishment survey). The household survey provides the information on the labor force, total employment, and unemployment that appears in the A tables, marked HOUSEHOLD DATA. It is a sample survey of about 55,800 households that is conducted by the Bureau of the Census with most of the findings analyzed and published by the Bureau of Labor Statistics (BLS).

The establishment survey provides the information on the employment, hours, and earnings of workers on nonagricultural payrolls that appears in the B tables, marked ESTABLISHMENT DATA. This information is collected from payroll records by BLS in cooperation with State agencies. The sample includes over 300,000 establishments employing over 38 million people.

For both surveys, the data for a given month are actually collected for and relate to a particular week. In the household survey, unless otherwise indicated, it is the calendar week that contains the 12th day of the month, which is called the survey week. In the establishment survey, the reference week is the pay period including the 12th, which may or may not correspond directly to the calendar week.

The data in this release are affected by a number of technical factors, including definitions, survey differences, seasonal adjustments, and the inevitable variance in results between a survey of a sample and a census of the entire population. Each of these factors is explained below.

Coverage, definitions, and differences between surveys

The sample households in the household survey are selected so as to reflect the entire civilian noninstitutional population 16 years of age and older. Each person in a household is classified as employed, unemployed, or not in the labor force. Those who hold more than one job are classified according to the job at which they worked the most hours.

People are classified as *employed* if they did any work at all as paid civilians; worked in their own business or profession or on their own farm; or worked 15 hours or more in an enterprise operated by a member of their family, whether they were paid or not. People are also counted as employed if they were on unpaid leave because of illness, bad weather, disputes between labor and management, or personal reasons. Members of the Armed Forces stationed in the United States are also included in the employed total.

People are classified as *unemployed*, regardless of their eligibility for unemployment benefits or public assistance, if they meet all of the following criteria: They had no employment during the survey week; they were available for work at that time; and they made specific efforts to find employment sometime during the prior 4 weeks. Persons laid off from their former jobs and awaiting recall and those expecting to report to a job within 30 days need not be looking for work to be counted as unemployed.

The *labor force* equals the sum of the number employed and the number unemployed. The *unemployment rate* is the percentage of unemployed people in the labor force (civilian plus the resident Armed Forces). Table A-5 presents a special grouping of seven measures of unemployment based on varying definitions of unemployment and the labor force. The definitions are provided in the table. The most restrictive definition yields U-1 and the most comprehensive yields U-7. The overall unemployment rate is U-3a, while U-5b represents the same measure with a civilian labor force base.

Unlike the household survey, the establishment survey only counts wage and salary employees whose names appear on the payroll records of nonagricultural firms. As a result, there are many differences between the two surveys, among which are the following:

— The household survey, although based on a smaller sample, reflects a larger segment of the population; the establishment survey excludes agriculture, the self-employed, unpaid family workers, private household workers, and members of the resident Armed Forces;

— The household survey includes people on unpaid leave among the employed; the establishment survey does not;

— The household survey is limited to those 16 years of age and older; the establishment survey is not limited by age;

— The household survey has no duplication of individuals, because each individual is counted only once; in the establishment survey, employees working at more than one job or otherwise appearing on more than one payroll would be counted separately for each appearance.

Other differences between the two surveys are described in "Comparing Employment Estimates from Household and Payroll Surveys," which may be obtained from the BLS upon request.

Seasonal adjustment

Over the course of a year, the size of the Nation's labor force and the levels of employment and unemployment undergo sharp fluctuations due to such seasonal events as changes in weather, reduced or expanded production, harvests, major holidays, and the opening and closing of schools. For example, the labor force increases by a large number each June, when schools close and many young people enter the job market. The effect of such seasonal variation can be very large; over the course of a year, for example, seasonality may account for as much as 95 percent of the month-to-month changes in unemployment.

Because these seasonal events follow a more or less regular pattern each year, their influence on statistical trends can be eliminated by adjusting the statistics from month to month. These adjustments make nonseasonal developments, such as declines in economic activity or increases in the participation of women in the labor force, easier to spot. To return to the school's-out example, the large number of people entering the labor force each June is likely to obscure any other changes that have taken place since May, making it difficult to determine if the level of economic activity has risen or declined. However, because the effect of students finishing school in previous years is known, the statistics for the current year can be adjusted to allow for a comparable change. Insofar as the seasonal adjustment is made correctly, the adjusted figure provides a more useful tool with which to analyze changes in economic activity.

Measures of labor force, employment, and unemployment contain components such as age and sex. Statistics for all employees, production workers, average weekly hours, and average hourly earnings include components based on the employer's industry. All these statistics can be seasonally adjusted either by adjusting the total or by adjusting each of the components and combining them. The second procedure usually yields more accurate information and is therefore followed by BLS. For example, the seasonally adjusted figure for the labor force is the sum of eight seasonally adjusted civilian employment components, plus the resident Armed Forces total (not adjusted for seasonality), and four seasonally adjusted unemployment components; the total for unemployment is the sum of the four unemployment components; and the overall unemployment rate is derived by dividing the resulting estimate of total unemployment by the estimate of the labor force.

The numerical factors used to make the seasonal adjustments are recalculated regularly. For the household survey, the factors are calculated for the January-June period and again for the July-December period. The January revision is applied to data that have been published over the previous 5 years. For the establishment survey, updated factors for seasonal adjustment are calculated only once a year, along with the introduction of new benchmarks which are discussed at the end of the next section.

Sampling variability

Statistics based on the household and establishment surveys are subject to sampling error, that is, the estimate of the number of people employed and the other estimates drawn from these surveys probably differ from the figures that would be obtained from a complete census, even if the same questionnaires and procedures were used. In the household survey, the amount of the differences can be expressed in terms of standard errors. The numerical value of a standard error depends upon the size of the sample, the results of the survey, and other factors. However, the numerical value is always such that the chances are approximately 68 out of 100 that an estimate based on the sample will differ by no more than the standard error from the results of a complete census. The chances are approximately 90 out of 100 that an estimate based on the sample will differ by no more than 1.6 times the standard error from the results of a complete census. At approximately the 90-percent level of confidence—the confidence limits used by BLS in its analyses—the error for the monthly change in total employment is on the order of plus or minus 358,000; for total unemployment it is 224,000; and, for the overall unemployment rate, it is 0.19 percentage point. These figures do not mean that the sample results are off by these magnitudes but, rather, that the chances are approximately 90 out of 100 that the "true" level or rate would not be expected to differ from the estimates by more than these amounts.

Sampling errors for monthly surveys are reduced when the data are cumulated for several months, such as quarterly or annually. Also, as a general rule, the smaller the estimate, the larger the sampling error. Therefore, relatively speaking, the estimate of the size of the labor force is subject to less error than is the estimate of the number unemployed. And, among the unemployed, the sampling error for the jobless rate of adult men, for example, is much smaller than is the error for the jobless rate of teenagers. Specifically, the error on monthly change in the jobless rate for men is .25 percentage point; for teenagers, it is 1.29 percentage points.

In the establishment survey, estimates for the 2 most current months are based on incomplete returns; for this reason, these estimates are labeled preliminary in the tables. When all the returns in the sample have been received, the estimates are revised. In other words, data for the month of September are published in preliminary form in October and November and in final form in December. To remove errors that build up over time, a comprehensive count of the employed is conducted each year. The results of this survey are used to establish new benchmarks—comprehensive counts of employment—against which month-to-month changes can be measured. The new benchmarks also incorporate changes in the classification of industries and allow for the formation of new establishments.

Additional statistics and other information

In order to provide a broad view of the Nation's employment situation, BLS regularly publishes a wide variety of data in this news release. More comprehensive statistics are contained in *Employment and Earnings*, published each month by BLS. It is available for $8.50 per issue or $25.00 per year from the U.S. Government Printing Office, Washington, DC 20204. A check or money order made out to the Superintendent of Documents must accompany all orders.

Employment and Earnings also provides approximations of the standard errors for the household survey data published in this release. For unemployment and other labor force categories, the standard errors appear in tables B through J of its "Explanatory Notes." Measures of the reliability of the data drawn from the establishment survey and the actual amounts of revision due to benchmark adjustments are provided in tables M, O, P, and Q of that publication.

Table A-1. Employment status of the population, including Armed Forces in the United States, by sex

(Numbers in thousands)

Employment status and sex	Not seasonally adjusted			Seasonally adjusted[1]					
	Feb. 1999	Jan. 1999	Feb. 1998	Feb. 1999	Oct. 1998	Nov. 1998	Dec. 1998	Jan. 1999	Feb. 1998
TOTAL									
Noninstitutional population[2]	186,706	187,340	187,481	186,706	186,801	186,949	187,098	187,340	187,481
Labor force[3]	121,676	125,791	123,990	122,901	123,779	124,215	124,299	125,124	124,990
Participation rate[4]	65.5	66.1	66.0	65.2	66.3	66.4	66.4	66.8	66.5
Total employed[5]	114,106	118,482	116,707	116,008	117,290	117,602	117,705	118,407	118,057
Employment-population ratio[6]	61.5	62.2	62.3	62.5	62.8	62.9	62.9	63.2	63.2
Resident Armed Forces	1,736	1,666	1,664	1,736	1,667	1,705	1,666	1,666	1,664
Civilian employed	112,480	114,796	115,023	114,273	115,573	115,947	116,039	116,711	116,663
Agriculture	2,760	2,801	2,795	3,205	3,238	3,238	3,100	3,300	3,555
Nonagricultural industries	109,709	111,995	112,228	111,073	112,335	112,709	112,916	113,411	113,030
Unemployed	7,462	7,309	6,983	6,892	6,510	6,563	6,594	6,716	6,333
Unemployment rate[7]	6.1	5.8	5.6	5.6	5.3	5.3	5.3	5.4	5.1
Not in labor force	64,030	60,549	63,671	62,904	63,023	62,734	62,800	62,216	62,590
Men, 16 years and over									
Noninstitutional population[2]	88,099	88,314	88,373	88,099	88,227	88,316	88,392	88,514	88,573
Labor force[3]	67,494	68,197	68,273	68,269	68,569	68,648	68,639	68,692	68,113
Participation rate[4]	76.7	75.8	75.9	76.6	76.5	76.6	76.4	76.6	76.6
Total employed[5]	63,253	63,944	64,239	64,987	64,979	65,074	65,055	65,322	65,572
Employment-population ratio[6]	71.0	71.1	71.4	72.5	72.5	72.5	72.5	72.6	72.9
Resident Armed Forces	1,577	1,532	1,521	1,577	1,535	1,542	1,534	1,532	1,521
Civilian employed	61,675	62,412	62,712	63,410	63,460	63,532	63,521	63,790	64,051
Unemployed	4,232	4,252	4,040	3,702	3,583	3,612	3,583	3,710	3,540
Unemployment rate[7]	6.3	6.2	5.9	5.4	5.2	5.3	5.2	5.4	5.1
Women, 16 years and over									
Noninstitutional population[2]	98,606	97,427	97,488	98,606	97,184	97,234	97,309	97,427	97,488
Labor force[3]	54,195	55,594	55,317	54,612	55,209	55,529	55,621	56,091	56,792
Participation rate[4]	56.1	57.1	56.7	56.5	56.8	57.1	57.2	57.6	57.2
Total employed[5]	50,844	52,536	52,474	51,482	52,264	52,579	52,650	53,086	52,995
Employment-population ratio[6]	52.7	53.9	53.8	53.2	53.8	54.1	54.1	54.5	54.3
Resident Armed Forces	159	134	163	159	161	163	162	134	163
Civilian employed	50,795	52,374	52,311	51,393	52,123	52,415	52,488	52,921	52,832
Unemployed	3,250	3,057	2,843	3,130	2,926	2,951	2,971	3,006	2,797
Unemployment rate[7]	6.0	5.5	5.1	5.8	5.3	5.3	5.3	5.4	5.0

[1] The population and Armed Forces figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employment as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

HOUSEHOLD DATA

Table A-2. Employment status of the civilian population by sex and age

(Numbers in thousands)

Employment status, sex, and age	Not seasonally adjusted			Seasonally adjusted[1]					
	Feb. 1990	Jan. 1990	Feb. 1989	Feb. 1990	Oct. 1989	Nov. 1989	Dec. 1989	Jan. 1990	Feb. 1990
TOTAL									
Civilian noninstitutional population	183,969	185,844	185,777	183,969	185,114	185,244	185,402	185,844	185,777
Civilian labor force	119,942	122,095	121,908	121,195	122,091	122,510	122,583	123,439	123,191
Participation rate	65.2	65.8	65.8	65.9	66.0	66.1	66.1	66.5	66.3
Employed	112,480	114,796	115,083	114,273	115,573	115,947	116,009	116,711	116,853
Employment-population ratio[2]	61.1	61.8	61.9	62.1	62.4	62.6	62.6	62.9	62.9
Unemployed	7,462	7,309	6,860	6,922	6,518	6,563	6,564	6,716	6,339
Unemployment rate	6.2	6.0	5.6	5.7	5.3	5.4	5.3	5.4	5.1
Men, 20 years and over									
Civilian noninstitutional population	80,203	81,162	81,256	80,203	80,951	80,934	81,001	81,162	81,256
Civilian labor force	62,205	62,926	63,031	62,614	62,915	62,966	63,002	63,358	63,490
Participation rate	77.6	77.5	77.6	78.1	77.8	77.8	77.8	78.1	78.1
Employed	58,626	59,442	59,891	59,561	60,004	59,999	60,049	60,420	60,636
Employment-population ratio[2]	73.1	73.2	73.4	74.3	74.2	74.1	74.1	74.4	74.6
Agriculture	2,027	2,054	2,096	2,279	2,315	2,313	2,292	2,277	2,330
Nonagricultural industries	56,599	57,387	57,816	57,282	57,689	57,686	57,757	58,143	58,316
Unemployed	3,579	3,485	3,360	3,053	2,911	2,966	2,953	2,938	2,853
Unemployment rate	5.8	5.5	5.3	4.9	4.6	4.8	4.7	4.6	4.5
Women, 20 years and over									
Civilian noninstitutional population	99,179	99,972	99,183	99,178	99,807	99,897	99,954	99,972	99,183
Civilian labor force	50,407	51,660	51,675	50,930	51,201	51,558	51,587	51,998	51,821
Participation rate	50.8	51.6	52.1	51.4	51.3	51.6	51.6	52.0	52.2
Employed	47,714	49,397	49,579	47,934	48,788	49,113	49,166	49,543	49,514
Employment-population ratio[2]	53.5	54.7	54.7	53.8	54.3	54.6	54.7	55.0	54.9
Agriculture	562	606	579	606	640	640	646	715	666
Nonagricultural industries	47,152	48,791	48,700	47,256	48,148	48,473	48,519	48,827	48,849
Unemployed	2,693	2,583	2,396	2,536	2,413	2,445	2,422	2,456	2,306
Unemployment rate	5.3	4.9	4.6	5.1	4.7	4.7	4.7	4.7	4.5
Both sexes, 16 to 19 years									
Civilian noninstitutional population	14,588	14,410	14,387	14,588	14,456	14,433	14,447	14,410	14,387
Civilian labor force	7,331	7,319	7,199	8,021	7,975	7,987	7,974	8,071	7,871
Participation rate	50.2	50.8	50.1	55.0	55.2	55.1	55.2	56.0	54.8
Employed	6,120	6,057	6,062	6,778	6,791	6,826	6,796	6,748	6,703
Employment-population ratio[2]	42.0	42.0	42.2	46.5	46.9	47.4	47.0	46.8	46.7
Agriculture	191	171	152	283	263	286	256	307	237
Nonagricultural industries	5,929	5,886	5,910	6,495	6,498	6,540	6,540	6,441	6,466
Unemployed	1,211	1,261	1,137	1,243	1,184	1,122	1,179	1,323	1,168
Unemployment rate	16.5	17.2	15.8	15.5	15.0	14.1	14.8	16.4	14.8

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

HOUSEHOLD DATA

Table A-3. Employment status of the civilian population by race, sex, age, and Hispanic origin

(Numbers in thousands)

Employment status, race, sex, age, and Hispanic origin	Not seasonally adjusted			Seasonally adjusted[1]					
	Feb. 1998	Jan. 1999	Feb. 1999	Feb. 1998	Oct. 1998	Nov. 1998	Dec. 1998	Jan. 1999	Feb. 1999
WHITE									
Civilian noninstitutional population	157,773	158,865	158,947	157,773	158,524	158,603	158,705	158,865	158,947
Civilian labor force	103,396	105,020	104,756	104,404	105,051	105,395	105,411	105,108	105,788
Participation rate	65.5	66.1	65.9	66.2	66.3	66.5	66.4	66.6	66.6
Employed	97,819	99,506	99,747	99,360	100,199	100,543	100,587	101 183	101,279
Employment-population ratio[2]	62.0	62.6	62.8	63.0	63.2	63.4	63.4	3.7	63.7
Unemployed	5,579	5,514	5,012	5,054	4,852	4,852	4,844	,923	4,521
Unemployment rate	5.4	5.3	4.8	4.8	4.6	4.6	4.6	4.6	4.3
Men, 20 years and over									
Civilian labor force	54,288	54,854	54,920	54,827	54,861	54,922	54,868	55,213	55,306
Participation rate	77.9	78.0	78.0	78.4	78.3	78.3	78.2	78.5	78.6
Employed	51,561	52,159	52,389	52,348	52,612	52,624	52,636	53,067	53,197
Employment-population ratio[2]	74.0	74.2	74.4	75.2	75.1	75.0	75.0	75.4	75.6
Unemployed	2,717	2,696	2,521	2,279	2,249	2,298	2,282	2,205	2,111
Unemployment rate	5.0	4.9	4.6	4.2	4.1	4.2	4.1	4.0	3.8
Women, 20 years and over									
Civilian labor force	42,748	43,803	43,857	42,848	43,298	43,825	43,844	43,936	43,770
Participation rate	58.1	57.0	56.8	58.2	56.5	56.9	56.9	57.2	56.9
Employed	40,780	41,948	42,008	40,942	41,583	41,880	41,930	42,201	42,177
Employment-population ratio[2]	53.5	54.6	54.6	53.7	54.2	54.6	54.6	54.9	54.6
Unemployed	1,968	1,854	1,849	1,906	1,715	1,736	1,714	1,734	1,593
Unemployment rate	4.6	4.2	3.9	4.4	4.0	4.0	3.9	3.9	3.6
Both sexes, 16 to 19 years									
Civilian labor force	6,381	6,363	6,182	6,929	6,892	6,848	6,880	6,958	6,720
Participation rate	53.7	54.5	53.0	58.3	58.5	58.3	58.6	59.6	57.7
Employed	5,488	5,399	5,340	6,080	6,004	6,030	6,001	5,975	5,994
Employment-population ratio[2]	46.2	46.2	45.8	51.0	51.0	51.3	51.2	51.1	50.7
Unemployed	893	964	841	849	888	818	880	983	816
Unemployment rate	14.0	15.2	13.6	12.5	12.9	11.9	12.8	14.1	12.1
Men	14.8	16.5	16.4	12.5	14.4	12.6	13.4	16.4	14.0
Women	13.2	11.7	10.8	12.6	11.3	11.3	11.8	11.7	10.2
BLACK									
Civilian noninstitutional population	20 969	20,877	20,905	20,569	20,796	20,811	20,842	20,877	20,905
Civilian labor force	12,985	13,275	13,303	13,138	13,290	13,330	13,405	13,477	13,476
Participation rate	63.0	63.6	63.6	63.9	63.9	64.1	64.3	64.6	64.5
Employed	11,298	11,705	11,655	11,504	11,807	11,831	11,856	11,880	11,873
Employment-population ratio[2]	54.9	56.1	55.8	55.9	56.8	56.8	56.9	56.9	56.8
Unemployed	1,676	1,570	1,648	1,634	1,483	1,499	1,548	1,617	1,603
Unemployment rate	12.9	11.8	12.4	12.4	11.2	11.2	11.6	12.0	11.9
Men, 20 years and over									
Civilian labor force	6,094	6,183	6,153	6,140	6,157	6,148	6,179	6,226	6,199
Participation rate	74.7	74.3	74.0	75.2	74.6	74.3	74.6	75.0	74.6
Employed	5,352	5,504	5,432	5,469	5,586	5,545	5,561	5,578	5,548
Employment-population ratio[2]	65.6	66.3	65.3	67.0	67.4	67.1	67.1	67.2	66.7
Unemployed	742	669	721	671	591	601	618	650	650
Unemployment rate	12.2	10.7	11.7	10.9	9.6	9.8	10.0	10.4	10.5
Women, 20 years and over									
Civilian labor force	6,114	6,357	6,327	6,136	6,234	6,280	6,318	6,369	6,348
Participation rate	59.7	61.1	60.7	59.9	60.2	60.6	60.9	61.2	61.0
Employed	5,462	5,712	5,699	5,490	5,620	5,663	5,654	5,706	5,697
Employment-population ratio[2]	53.4	54.9	54.4	53.6	54.3	54.6	54.5	54.9	54.7
Unemployed	652	645	658	645	614	617	662	663	651
Unemployment rate	10.7	10.1	10.4	10.5	9.8	9.8	10.5	10.4	10.3
Both sexes, 16 to 19 years									
Civilian labor force	757	755	822	883	899	904	910	991	938
Participation rate	34.8	34.7	37.8	39.7	41.2	41.5	41.7	40.5	42.7
Employed	473	490	553	545	621	623	641	577	627
Employment-population ratio[2]	21.8	22.5	25.4	25.1	28.5	28.6	29.4	[illegible]	28.8
Unemployed	284	265	269	318	278	281	269	304	301
Unemployment rate	37.5	35.1	32.7	36.8	30.9	31.1	29.6	34.5	32.4
Men	42.9	37.8	35.2	39.9	32.8	32.1	29.8	36.7	33.1
Women	32.5	32.3	30.0	33.8	28.6	29.9	29.3	32.0	31.6

See footnotes at end of table.

Table A-3. Employment status of the civilian population by race, sex, age, and Hispanic origin—Continued

(Numbers in thousands)

Employment status, race, sex, age, and Hispanic origin	Not seasonally adjusted			Seasonally adjusted[1]					
	Feb. 1988	Jan. 1989	Feb. 1989	Feb. 1989	Oct. 1989	Nov. 1989	Dec. 1989	Jan. 1990	Feb. 1990
HISPANIC ORIGIN									
Civilian noninstitutional population	13,153	13,564	13,606	13,153	13,499	13,495	13,530	13,584	13,606
Civilian labor force	8,905	9,110	9,120	8,987	9,075	9,149	9,133	9,205	9,219
Participation rate	67.7	67.2	67.1	68.3	67.4	67.8	67.5	67.8	67.8
Employed	8,096	8,274	8,441	8,041	8,398	8,419	8,441	8,434	8,588
Employment-population ratio[2]	61.5	61.0	62.0	62.7	62.2	62.4	62.4	62.2	63.2
Unemployed	820	836	696	746	797	729	692	771	684
Unemployment rate	9.2	9.2	7.5	8.3	7.8	8.0	7.6	8.4	6.8

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Table A-4. Selected employment indicators

(In thousands)

Category	Not seasonally adjusted			Seasonally adjusted					
	Feb. 1989	Jan. 1990	Feb 1990	Feb. 1989	Oct. 1989	Nov. 1989	Dec. 1989	Jan. 1990	Feb. 1990
CHARACTERISTIC									
Civilian employed, 16 years and over	112,480	114,786	115,023	114,273	115,573	115,847	116,009	116,711	116,863
Married men, spouse present	39,893	40,475	40,314	40,499	40,904	40,407	40,483	40,825	40,938
Married women, spouse present	28,477	29,323	29,295	29,020	29,060	29,065	29,053	29,089	29,412
Women who maintain families	6,157	6,436	6,391	6,151	6,344	6,375	6,389	6,416	6,386
MAJOR INDUSTRY AND CLASS OF WORKER									
Agriculture:									
Wage and salary workers	1,407	1,420	1,419	1,640	1,661	1,672	1,666	1,664	1,648
Self-employed workers	1,274	1,287	1,284	1,410	1,405	1,490	1,348	1,367	1,419
Unpaid family workers	79	124	95	183	177	125	149	166	150
Nonagricultural industries:									
Wage and salary workers	101,341	103,158	103,844	102,466	103,729	103,770	103,994	104,810	104,797
Government	17,270	17,532	17,623	17,661	17,249	17,397	17,423	17,360	17,211
Private industries	84,071	85,626	86,221	84,537	86,480	86,380	86,481	87,117	87,486
Private households	1,087	1,116	1,088	1,197	1,152	1,209	1,210	1,196	1,135
Other industries	82,984	84,510	84,965	84,370	85,341	85,174	85,271	85,921	86,350
Self-employed workers	8,146	8,517	8,321	8,339	8,479	8,619	8,602	8,719	8,517
Unpaid family workers	213	280	282	232	232	300	298	298	280
PERSONS AT WORK PART TIME[1]									
All industries:									
Part time for economic reasons	5,377	5,139	4,998	5,399	4,965	5,081	5,321	5,097	4,991
Slack work	2,981	2,634	2,584	2,488	2,220	2,279	2,549	2,302	2,350
Could only find part-time work	2,390	2,150	2,153	2,581	2,388	2,375	2,410	2,352	2,350
Voluntary part time	15,448	15,755	15,958	14,619	15,161	15,446	15,363	15,491	15,136
Nonagricultural industries:									
Part time for economic reasons	5,117	4,914	4,725	5,101	4,727	4,819	5,023	4,837	4,697
Slack work	2,504	2,455	2,343	2,258	2,095	2,116	2,377	2,144	2,109
Could only find part-time work	2,292	2,112	2,102	2,477	2,319	2,358	2,307	2,360	2,272
Voluntary part time	15,055	15,374	15,994	14,172	14,679	14,886	14,838	14,970	14,668

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial dispute.

Table A-8. Range of unemployment measures based on varying definitions of unemployment and the labor force, seasonally adjusted

(Percent)

Measure	Quarterly averages					Monthly data		
	1987	1988				1988	1989	
	IV	I	II	III	IV	Dec.	Jan.	Feb.
U-1 Persons unemployed 15 weeks or longer as a percent of the civilian labor force	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.1
U-2 Job losers as a percent of the civilian labor force	2.7	2.6	2.5	2.5	2.5	2.5	2.5	2.3
U-3 Unemployed persons 25 years and over as a percent of the civilian labor force	4.5	4.4	4.2	4.2	4.1	4.1	4.1	4.0
U-4 Unemployed full-time jobseekers as a percent of the full-time civilian labor force	5.5	5.3	5.1	5.1	5.0	5.1	5.0	4.9
U-5a Total unemployed as a percent of the labor force, including the resident Armed Forces	5.6	5.6	5.4	5.4	5.3	5.3	5.4	5.1
U-5b Total unemployed as a percent of the civilian labor force	5.9	5.7	5.5	5.5	5.3	5.3	5.4	5.1
U-6 Total full-time jobseekers plus 1/2 part-time jobseekers plus 1/2 total on part time for economic reasons as a percent of the civilian labor force less 1/2 of the part-time labor force	8.1	7.9	7.6	7.6	7.5	7.6	7.5	7.2
U-7 Total full-time jobseekers plus 1/2 part-time jobseekers plus 1/2 total on part time for economic reasons plus discouraged workers as a percent of the civilian labor force plus discouraged workers less 1/2 of the part-time labor force	8.9	8.7	8.3	8.4	8.2	N.A.	N.A.	N.A.

N.A. = not available.

Table A-9. Selected unemployment indicators, seasonally adjusted

Category	Number of unemployed persons (in thousands)			Unemployment rates[1]					
	Feb. 1988	Jan. 1989	Feb. 1989	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989	Feb. 1989
CHARACTERISTIC									
Total, 16 years and over	6,892	6,718	6,328	5.7	5.3	5.4	5.3	5.4	5.1
Men, 16 years and over	3,702	3,710	3,540	5.5	5.4	5.4	5.3	5.5	5.2
Men, 20 years and over	3,053	2,938	2,853	4.9	4.8	4.8	4.7	4.8	4.5
Women, 16 years and over	3,190	3,008	2,787	5.9	5.3	5.3	5.4	5.4	5.0
Women, 20 years and over	2,596	2,456	2,306	5.1	4.7	4.7	4.7	4.7	4.5
Both sexes, 16 to 19 years	1,243	1,323	1,168	15.5	19.0	14.1	14.0	16.4	14.0
Married men, spouse present	1,416	1,304	1,268	3.4	3.1	3.3	3.1	3.1	3.1
Married women, spouse present	1,206	1,115	1,008	4.0	3.7	3.8	3.7	3.8	3.4
Women who maintain families	557	557	556	8.3	7.9	7.7	8.2	8.0	8.0
Full-time workers	5,536	5,395	5,024	5.3	5.0	5.0	5.1	5.0	4.8
Part-time workers	1,379	1,445	1,314	7.9	7.4	7.1	7.0	7.9	7.3
Labor force time lost[2]	—	—	—	6.6	6.1	6.2	6.3	6.2	5.9
INDUSTRY									
Nonagricultural private wage and salary workers	5,149	5,177	4,749	5.7	5.4	5.5	5.4	5.6	5.1
Goods-producing industries	1,985	1,894	1,784	6.8	6.4	6.4	6.4	6.4	6.1
Mining	66	43	57	7.8	8.8	8.9	7.7	6.1	8.0
Construction	988	863	848	10.9	10.0	10.8	10.4	10.4	10.0
Manufacturing	1,211	1,189	1,079	5.6	5.3	5.1	5.2	5.3	4.9
Durable goods	734	661	576	5.7	5.0	4.9	5.0	5.0	4.4
Nondurable goods	477	528	503	5.4	5.7	5.3	5.5	5.7	5.5
Service-producing industries	3,184	3,283	2,965	5.2	4.9	5.1	4.9	5.2	4.7
Transportation and public utilities	247	245	244	3.8	3.5	4.0	3.9	3.8	3.9
Wholesale and retail trade	1,460	1,498	1,394	6.3	6.0	6.2	6.3	6.3	5.6
Finance and service industries	1,477	1,550	1,437	4.6	4.5	4.6	4.1	4.7	4.3
Government workers	501	496	477	2.9	2.8	2.5	2.7	2.7	2.7
Agricultural wage and salary workers	192	176	160	10.5	10.2	9.3	8.8	9.5	8.9

[1] Unemployment as a percent of the civilian labor force.

[2] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

Table A-7. Duration of unemployment

(Numbers in thousands)

Weeks of unemployment	Not seasonally adjusted			Seasonally adjusted					
	Feb. 1998	Jan. 1999	Feb. 1999	Feb. 1998	Oct. 1998	Nov. 1998	Dec. 1998	Jan. 1999	Feb. 1999
DURATION									
Less than 5 weeks	2,973	3,464	3,117	3,097	3,059	3,117	3,039	3,181	3,247
5 to 14 weeks	2,602	2,259	2,329	2,080	1,835	1,935	2,039	2,091	1,885
15 weeks and over	1,907	1,599	1,438	1,732	1,564	1,502	1,495	1,512	1,304
15 to 26 weeks	977	817	788	842	788	787	758	757	665
27 weeks and over	930	770	668	890	766	715	737	755	639
Average (mean) duration, in weeks	14.3	12.3	12.3	14.1	13.4	12.9	12.8	12.7	12.1
Median duration, in weeks	7.1	5.8	6.0	6.3	5.7	5.8	5.8	5.7	5.3
PERCENT DISTRIBUTION									
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 weeks	39.7	47.4	45.3	44.7	47.4	47.8	46.2	47.0	50.6
5 to 14 weeks	34.8	30.9	33.8	30.2	28.5	29.5	31.1	30.7	29.1
15 weeks and over	25.5	21.7	20.9	25.0	24.1	22.9	22.8	22.3	20.3
15 to 26 weeks	13.1	11.2	11.2	12.2	12.2	12.0	11.5	11.2	10.4
27 weeks and over	12.4	10.5	9.7	12.9	11.9	10.9	11.2	11.1	10.0

Table A-8. Reason for unemployment

(Numbers in thousands)

Reasons	Not seasonally adjusted			Seasonally adjusted					
	Feb. 1998	Jan. 1999	Feb. 1999	Feb. 1998	Oct. 1998	Nov. 1998	Dec. 1998	Jan. 1999	Feb. 1999
NUMBER OF UNEMPLOYED									
Job losers	3,739	3,701	3,382	3,182	2,951	3,031	3,088	3,121	2,878
On layoff	1,181	1,210	1,042	977	844	914	819	827	774
Other job losers	2,558	2,491	2,340	2,205	2,107	2,217	2,247	2,294	2,102
Job leavers	999	1,067	1,008	999	994	983	998	995	985
Reentrants	1,874	1,866	1,799	1,918	1,747	1,788	1,725	1,835	1,740
New entrants	782	675	666	855	747	799	799	790	766
PERCENT DISTRIBUTION									
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	50.0	50.7	49.1	48.0	45.9	46.2	46.5	46.4	45.2
On layoff	15.8	16.6	15.1	12.7	13.1	12.4	12.4	12.3	12.2
Other job losers	34.2	34.1	34.0	33.3	32.8	33.8	34.1	34.1	33.0
Job leavers	13.2	14.6	14.6	14.0	15.3	14.7	15.1	14.7	15.5
Reentrants	25.4	25.5	26.1	27.7	27.2	26.9	26.2	27.3	27.3
New entrants	10.4	9.2	10.1	12.4	11.6	12.2	12.1	11.8	12.0
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE									
Job losers	3.1	3.0	2.8	2.6	2.4	2.5	2.5	2.5	2.3
Job leavers	.8	.9	.8	.8	.8	.8	.8	.8	.8
Reentrants	1.6	1.5	1.5	1.6	1.4	1.4	1.4	1.5	1.4
New entrants	.7	.6	.6	.7	.6	.7	.7	.6	.6

Table A-9. Unemployed persons by sex and age, seasonally adjusted

Sex and age	Number of unemployed persons (in thousands)			Unemployment rates[1]					
	Feb. 1988	Jan. 1989	Feb. 1989	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989	Feb. 1989
Total, 16 years and over	6,892	6,716	6,328	5.7	5.3	5.4	5.3	5.4	5.1
16 to 24 years	2,531	2,663	2,316	11.1	10.9	10.6	10.9	11.9	10.5
16 to 19 years	1,243	1,323	1,198	15.5	15.0	14.1	14.8	16.4	14.8
16 to 17 years	568	581	572	17.7	17.2	15.8	16.6	18.3	18.2
18 to 19 years	685	751	605	14.1	13.3	12.9	13.3	15.4	12.7
20 to 24 years	1,288	1,340	1,148	8.7	8.6	8.7	8.7	9.3	8.1
25 years and over	4,377	4,101	4,028	4.4	4.1	4.2	4.1	4.1	4.0
25 to 54 years	3,887	3,632	3,559	4.7	4.3	4.4	4.3	4.2	4.2
55 years and over	485	474	466	3.2	2.8	2.8	3.0	3.1	3.1
Men, 16 years and over	3,702	3,710	3,540	5.5	5.4	5.4	5.3	5.5	5.2
16 to 24 years	1,340	1,494	1,302	11.4	11.8	10.9	11.1	12.8	11.1
16 to 19 years	649	772	687	15.8	16.5	14.8	15.4	18.6	16.7
16 to 17 years	300	330	317	17.6	18.5	17.3	17.3	20.6	19.6
18 to 19 years	350	455	379	14.9	15.0	13.0	13.5	17.9	15.1
20 to 24 years	691	722	615	9.0	9.2	8.8	8.7	9.6	8.1
25 years and over	2,369	2,245	2,246	4.3	4.0	4.2	4.1	4.0	4.0
25 to 54 years	2,071	1,986	1,943	4.5	4.2	4.4	4.3	4.2	4.1
55 years and over	297	259	303	3.4	3.0	3.2	3.3	3.0	3.4
Women, 16 years and over	3,190	3,006	2,787	5.9	5.3	5.3	5.4	5.4	5.0
16 to 24 years	1,191	1,169	1,014	10.9	9.9	10.3	10.7	10.9	9.7
16 to 19 years	594	551	481	15.1	13.3	13.3	14.2	14.0	12.8
16 to 17 years	268	251	256	17.7	15.8	14.1	15.8	15.9	16.8
18 to 19 years	305	298	226	13.3	11.8	12.8	13.1	12.7	10.0
20 to 24 years	597	618	533	8.5	7.9	8.8	8.7	9.1	8.0
25 years and over	2,008	1,856	1,780	4.8	4.2	4.2	4.1	4.1	3.9
25 to 54 years	1,816	1,646	1,616	4.9	4.5	4.4	4.4	4.3	4.2
55 years and over	188	205	164	3.0	2.4	2.4	2.8	3.1	2.5

[1] Unemployment as a percent of the civilian labor force.

Table A-10. Employment status of black and other workers

(Numbers in thousands)

Employment status	Not seasonally adjusted			Seasonally adjusted[1]					
	Feb. 1988	Jan. 1989	Feb. 1989	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989	Feb. 1989
Civilian noninstitutional population	26,196	26,779	26,830	26,196	26,580	26,641	26,697	26,779	26,830
Civilian labor force	16,544	17,075	17,147	16,777	17,070	17,079	17,172	17,283	17,386
Participation rate	63.2	63.8	63.9	64.0	64.2	64.1	64.3	64.5	64.8
Employed	14,641	15,279	15,276	14,887	15,394	15,385	15,457	15,449	15,540
Employment-population ratio[2]	55.9	57.1	56.9	56.9	57.9	57.7	57.9	57.7	57.9
Unemployed	1,904	1,795	1,871	1,890	1,676	1,714	1,715	1,833	1,846
Unemployment rate	11.5	10.5	10.9	11.2	9.8	10.0	10.0	10.6	10.6
Not in labor force	9,652	9,704	9,682	9,419	9,520	9,562	9,525	9,496	9,444

[1] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and seasonally adjusted columns.

[2] Civilian employment as a percent of the civilian noninstitutional population.

HOUSEHOLD DATA

Table A-11. Occupational status of the employed and unemployed, not seasonally adjusted

(Numbers in thousands)

Occupation	Civilian employed		Unemployed		Unemployment rate	
	Feb. 1988	Feb. 1989	Feb. 1988	Feb. 1989	Feb. 1988	Feb. 1989
Total, 16 years and over[1]	112,480	115,023	7,482	6,893	6.2	5.6
Managerial and professional specialty	28,821	30,106	586	602	2.0	2.0
Executive, administrative, and managerial	13,789	14,592	348	378	2.5	2.5
Professional specialty	14,982	15,514	238	224	1.6	1.4
Technical, sales, and administrative support	35,809	36,400	1,502	1,478	4.1	4.0
Technicians and related support	3,391	3,588	113	102	3.2	2.8
Sales occupations	13,376	13,900	949	633	4.8	4.4
Administrative support, including clerical	18,453	18,231	741	752	3.9	4.0
Service occupations	15,170	15,537	1,311	1,043	8.0	6.3
Private household	899	910	67	35	7.0	3.7
Protective service	1,997	1,960	85	80	4.3	3.9
Service, except private household and protective	12,396	12,679	1,158	926	8.6	6.8
Precision production, craft, and repair	13,373	13,486	993	985	6.9	6.8
Mechanics and repairers	4,558	4,596	197	186	4.1	3.8
Construction trades	4,728	4,705	572	608	10.8	11.4
Other precision production, craft, and repair	4,086	4,185	223	20	5.2	4.8
Operators, fabricators, and laborers	17,237	17,855	1,977	1,785	10.3	9.2
Machine operators, assemblers, and inspectors	7,914	8,189	758	656	8.7	7.5
Transportation and material moving occupations	4,696	4,883	451	373	8.8	7.4
Handlers, equipment cleaners, helpers, and laborers	4,627	4,803	770	756	14.3	13.6
Construction laborers	884	719	254	206	27.1	22.2
Other handlers, equipment cleaners, helpers, and laborers	3,943	4,084	515	549	11.8	11.8
Farming, forestry, and fishing	2,849	2,855	299	265	9.5	8.5

[1] Persons with no previous work experience and those whose last job was in the Armed Forces are included in the unemployed total.

Table A-12. Employment status of male Vietnam-era veterans and nonveterans by age, not seasonally adjusted

(Numbers in thousands)

Veteran status and age	Civilian noninstitutional population		Civilian labor force							
			Total		Employed		Unemployed			
							Number		Percent of labor force	
	Feb. 1988	Feb. 1989	Feb. 1988	Feb. 1989	Feb. 1988	Feb. 1989	Feb. 1988	Feb. 1989	Feb. 1988	Feb. 1989
VIETNAM-ERA VETERANS										
Total, 30 years and over	7,877	7,914	7,343	7,226	6,981	6,936	362	290	5.0	4.0
30 to 44 years	5,633	5,684	5,724	5,371	5,433	5,142	291	229	5.1	4.3
30 to 34 years	791	584	732	515	688	487	44	28	6.0	5.4
35 to 39 years	2,329	1,906	2,223	1,809	2,082	1,701	141	107	6.3	5.9
40 to 44 years	2,923	3,195	2,769	3,048	2,663	2,954	106	94	3.8	3.1
45 years and over	1,844	2,250	1,619	1,855	1,448	1,794	71	61	4.7	3.3
NONVETERANS										
Total, 30 to 44 years	20,071	21,081	19,873	19,870	17,905	18,971	968	899	5.1	4.5
30 to 34 years	9,001	9,255	8,529	8,740	8,027	8,337	502	403	5.9	4.6
35 to 39 years	6,837	7,190	6,223	6,796	5,901	6,491	322	295	5.2	4.3
40 to 44 years	4,433	4,636	4,121	4,344	3,977	4,143	144	201	3.5	4.6

NOTE: Male Vietnam-era veterans are men who served in the Armed Forces between August 5, 1964 and May 7, 1975. Nonveterans are men who have never served in the Armed Forces; published data are limited to those 30 to 44 years of age, the group that most closely corresponds to the bulk of the Vietnam-era veteran population.

Table A-13. Employment status of the civilian population for eleven large States

(Numbers in thousands)

State and employment status	Not seasonally adjusted[1]			Seasonally adjusted[2]					
	Feb. 1988	Jan. 1989	Feb. 1989	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989	Feb. 1989
California									
Civilian noninstitutional population	20,726	20,994	21,016	20,726	20,927	20,951	20,973	20,994	21,016
Civilian labor force	13,910	14,168	14,063	13,947	14,063	14,186	14,196	14,220	14,117
Employed	13,102	13,407	13,309	13,199	13,363	13,451	13,524	13,505	13,405
Unemployed	808	761	774	748	700	735	674	715	712
Unemployment rate	5.8	5.4	5.5	5.4	5.0	5.2	4.7	5.0	5.0
Florida									
Civilian noninstitutional population	9,598	9,839	9,860	9,598	9,777	9,798	9,819	9,839	9,860
Civilian labor force	5,966	6,052	6,013	6,034	6,170	6,144	6,085	6,155	6,086
Employed	5,667	5,693	5,702	5,722	5,862	5,823	5,755	5,793	5,782
Unemployed	298	359	312	312	308	321	330	362	324
Unemployment rate	5.0	5.9	5.2	5.2	5.0	5.2	5.4	5.9	5.3
Illinois									
Civilian noninstitutional population	8,733	8,709	8,706	8,733	8,716	8,716	8,712	8,709	8,706
Civilian labor force	5,717	5,791	5,903	5,793	5,771	5,844	5,817	5,837	5,976
Employed	5,249	5,419	5,543	5,369	5,398	5,433	5,429	5,491	5,663
Unemployed	467	372	359	424	383	411	388	346	313
Unemployment rate	8.2	6.4	6.1	7.3	6.6	7.0	6.7	5.9	5.2
Massachusetts									
Civilian noninstitutional population	4,593	4,596	4,598	4,593	4,596	4,596	4,596	4,596	4,598
Civilian labor force	3,096	3,139	3,162	3,141	3,151	3,153	3,150	3,196	3,205
Employed	2,982	3,020	3,038	3,038	3,047	3,032	3,043	3,063	3,094
Unemployed	115	119	124	103	104	121	107	133	111
Unemployment rate	3.8	3.8	3.9	3.3	3.3	3.8	3.4	3.3	3.5
Michigan									
Civilian noninstitutional population	6,992	7,069	7,075	6,992	7,060	7,057	7,063	7,069	7,075
Civilian labor force	4,482	4,589	4,612	4,535	4,615	4,652	4,648	4,687	4,698
Employed	4,083	4,230	4,300	4,161	4,282	4,310	4,306	4,364	4,382
Unemployed	399	358	312	374	333	342	342	323	296
Unemployment rate	8.9	7.8	6.8	8.2	7.2	7.4	7.4	6.9	6.1
New Jersey									
Civilian noninstitutional population	6,025	6,051	6,053	6,025	6,048	6,048	6,050	6,051	6,053
Civilian labor force [3]	3,989	4,009	4,031	3,981	3,983	3,978	4,043	4,048	4,041
Employed	3,808	3,825	3,851	3,841	3,810	3,821	3,875	3,888	3,884
Unemployed	181	184	180	140	153	157	168	158	159
Unemployment rate	4.0	4.6	4.5	3.5	3.9	3.9	4.2	3.9	3.9
New York									
Civilian noninstitutional population	13,787	13,806	13,807	13,787	13,805	13,807	13,807	13,806	13,807
Civilian labor force	8,437	8,652	8,624	8,517	8,533	8,580	8,580	8,621	8,701
Employed	8,065	8,170	8,152	8,176	8,174	8,177	8,177	8,198	8,258
Unemployed	372	482	473	341	359	383	403	423	443
Unemployment rate	4.4	5.6	5.5	4.0	4.2	4.5	4.7	4.9	5.1
North Carolina									
Civilian noninstitutional population	4,972	4,967	4,975	4,972	4,943	4,951	4,959	4,967	4,975
Civilian labor force	3,294	3,381	3,381	3,306	3,387	3,386	3,371	3,435	3,390
Employed	3,156	3,231	3,255	3,185	3,254	3,266	3,254	3,302	3,283
Unemployed	138	150	125	121	133	120	117	133	107
Unemployment rate	4.2	4.4	3.7	3.7	3.9	3.5	3.5	3.9	3.2
Ohio									
Civilian noninstitutional population	8,214	8,286	8,292	8,214	8,269	8,276	8,281	8,286	8,292
Civilian labor force	5,298	5,384	5,380	5,355	5,349	5,386	5,355	5,426	5,432
Employed	4,922	5,015	5,063	5,014	5,049	5,059	5,060	5,094	5,152
Unemployed	376	369	317	341	300	307	295	332	280
Unemployment rate	7.1	6.9	5.9	6.4	5.6	5.7	5.5	6.1	5.2

See footnotes at end of table.

Table A-13. Employment status of the civilian population for eleven large States—Continued

(Numbers in thousands)

State and employment status	Not seasonally adjusted[1]			Seasonally adjusted[1]					
	Feb. 1988	Jan. 1989	Feb. 1989	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989	Feb. 1989
Pennsylvania									
Civilian noninstitutional population[2]	9,343	9,404	9,409	9,343	9,390	9,398	9,400	9,404	9,409
Civilian labor force	5,672	5,884	5,914	5,793	5,744	5,779	5,818	5,847	5,932
Employed	5,337	5,592	5,533	5,487	5,436	5,510	5,543	5,589	5,679
Unemployed	335	292	381	306	308	269	273	258	253
Unemployment rate	5.9	5.0	4.8	5.3	5.4	4.7	4.7	4.3	4.3
Texas									
Civilian noninstitutional population[2]	12,015	11,987	11,994	12,015	12,005	12,003	12,000	11,997	11,994
Civilian labor force	8,184	8,188	8,150	8,299	8,309	8,308	8,284	8,303	8,254
Employed	7,469	7,566	7,556	7,616	7,708	7,725	7,693	7,713	7,703
Unemployed	715	622	594	673	601	583	591	590	551
Unemployment rate	8.7	7.6	7.3	8.1	7.2	7.0	7.1	7.1	6.7

[1] These are the official Bureau of Labor Statistics' estimates used in the administration of Federal fund allocation programs.

[2] The population figures are not adjusted for seasonal variation; therefore, identical numbers appear in the unadjusted and the seasonally adjusted columns.

ESTABLISHMENT DATA

ESTABLISHMENT DATA

Table B-1. Employees on nonagricultural payrolls by industry

(In thousands)

Industry	Not seasonally adjusted				Seasonally adjusted					
	Feb. 1988	Dec. 1988	Jan. 1989p/	Feb. 1989p/	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989p/	Feb. 1989p/
Total	103,373	108,491	106,523	106,939	104,729	106,973	107,419	107,641	108,036	108,345
Total private	85,844	90,654	88,989	89,053	87,475	89,481	89,833	90,188	90,515	90,739
Goods-producing industries	24,669	25,869	25,419	25,313	25,271	25,743	25,849	25,889	26,044	26,012
Mining	728	729	718	703	731	729	722	719	716	714
Oil and gas extraction	413.9	418.0	402.7	396.9	413	413	406	402	399	398
Construction	4,628	5,376	5,053	4,936	5,130	5,366	5,413	5,430	5,333	5,313
General building contractors	1,260.9	1,415.6	1,348.3	1,316.2	1,377	1,393	1,404	1,414	1,448	1,435
Manufacturing	19,261	19,765	19,656	19,634	19,398	19,648	19,714	19,760	19,793	19,785
Production workers	13,136	13,587	13,483	13,414	13,249	13,412	13,465	13,481	13,524	13,524
Durable goods	11,348	11,681	11,626	11,617	11,404	11,595	11,637	11,651	11,688	11,674
Production workers	7,552	7,803	7,756	7,756	7,599	7,735	7,765	7,776	7,806	7,801
Lumber and wood products	731.4	759.8	750.2	745.1	756	760	767	771	776	778
Furniture and fixtures	535.4	545.9	541.8	542.7	535	540	541	540	540	542
Stone, clay, and glass products	560.8	585.7	571.7	569.5	584	588	590	592	592	593
Primary metal industries	771.0	795.2	796.3	795.4	778	796	796	794	796	794
Blast furnaces and basic steel products	279.7	285.4	280.8	281.0	280	282	282	280	281	281
Fabricated metal products	1,450.7	1,484.5	1,481.0	1,482.1	1,438	1,469	1,474	1,479	1,487	1,490
Machinery, except electrical	2,093.1	2,195.9	2,195.4	2,204.8	2,091	2,173	2,185	2,190	2,196	2,203
Electrical and electronic equipment	2,108.7	2,131.8	2,122.3	2,110.0	2,112	2,126	2,130	2,123	2,120	2,119
Transportation equipment	2,036.6	2,071.6	2,061.6	2,055.9	2,031	2,045	2,050	2,051	2,066	2,050
Motor vehicles and equipment	837.8	872.8	862.0	858.9	837	859	860	858	871	857
Instruments and related products	704.3	725.0	728.1	728.2	705	719	721	724	729	729
Miscellaneous manufacturing	375.6	384.3	376.6	382.2	382	361	383	385	386	388
Nondurable goods	7,913	8,088	8,030	8,037	7,986	8,053	8,077	8,089	8,105	8,111
Production workers	5,584	5,704	5,647	5,658	5,650	5,677	5,700	5,705	5,718	5,723
Food and kindred products	1,594.8	1,646.5	1,614.4	1,603.0	1,649	1,654	1,661	1,656	1,644	1,638
Tobacco manufactures	54.4	56.0	54.3	52.5	54	52	53	53	52	52
Textile mill products	729.3	722.9	721.7	721.5	732	722	723	722	725	726
Apparel and other textile products	1,103.4	1,095.6	1,086.4	1,099.5	1,104	1,086	1,093	1,096	1,098	1,100
Paper and allied products	682.2	694.4	687.9	687.2	686	691	691	692	691	691
Printing and publishing	1,565.1	1,598.5	1,595.3	1,598.6	1,564	1,581	1,583	1,592	1,597	1,599
Chemicals and allied products	1,043.8	1,074.0	1,074.5	1,076.2	1,049	1,071	1,073	1,076	1,081	1,082
Petroleum and coal products	161.5	166.1	163.9	164.1	163	169	169	168	167	168
Rubber and misc. plastics products	856.2	890.4	885.7	891.5	856	882	887	890	887	892
Leather and leather products	145.5	144.7	143.8	143.2	147	145	144	144	145	145
Service-producing industries	78,764	82,622	81,104	81,626	79,458	81,230	81,570	81,752	82,012	82,333
Transportation and public utilities	5,446	5,716	5,648	5,653	5,513	5,631	5,658	5,670	5,711	5,723
Transportation	3,217	3,478	3,401	3,406	3,272	3,380	3,407	3,422	3,453	3,465
Communication and public utilities	2,229	2,246	2,247	2,247	2,241	2,251	2,251	2,248	2,258	2,258
Wholesale trade	5,979	6,313	6,285	6,306	6,035	6,246	6,275	6,301	6,332	6,362
Durable goods	3,550	3,783	3,777	3,792	3,573	3,736	3,758	3,779	3,796	3,813
Nondurable goods	2,429	2,530	2,508	2,514	2,462	2,510	2,517	2,522	2,536	2,547
Retail trade	18,521	20,070	19,264	19,101	19,045	19,327	19,481	19,429	19,557	19,631
General merchandise stores	2,479.1	2,857.2	2,644.5	2,517.6	2,561	2,520	2,533	2,544	2,580	2,600
Food stores	2,994.7	3,243.3	3,176.1	3,166.9	3,029	3,143	3,157	3,177	3,199	3,202
Automotive dealers and service stations	2,018.0	2,095.1	2,085.2	2,085.4	2,047	2,103	2,106	2,106	2,108	2,113
Eating and drinking places	6,018.4	6,390.5	6,168.7	6,213.9	6,291	6,419	6,460	6,449	6,466	6,493
Finance, insurance, and real estate	6,571	6,720	6,678	6,675	6,636	6,708	6,725	6,741	6,732	6,743
Finance	3,269	3,518	3,513	3,508	3,305	3,308	3,316	3,325	3,320	3,325
Insurance	2,051	2,099	2,093	2,097	2,053	2,089	2,092	2,101	2,095	2,099
Real estate	1,251	1,303	1,272	1,270	1,278	1,311	1,319	1,315	1,317	1,319
Services	24,718	25,964	25,695	26,089	26,975	25,826	25,947	26,070	26,139	26,268
Business services	5,267.9	5,627.3	5,494.8	5,517.6	5,385	5,553	5,563	5,685	5,578	5,619
Health services	7,037.3	7,451.1	7,481.7	7,521.1	7,056	7,365	7,414	7,466	7,497	7,544
Government	17,529	17,837	17,534	17,886	17,254	17,492	17,564	17,541	17,541	17,606
Federal	2,955	2,901	2,952	2,957	2,972	2,989	2,939	2,990	2,573	2,975
State	4,109	4,156	4,033	4,177	4,014	4,070	4,074	4,071	4,061	4,079
Local	10,465	10,780	10,549	10,752	10,268	10,433	10,561	10,480	10,507	10,552

p = preliminary.

ESTABLISHMENT DATA

ESTABLISHMENT DATA

Table B-2. Average weekly hours of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Feb. 1988	Dec. 1988	Jan. 1989p/	Feb. 1989p/	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989p/	Feb. 1989p/
Total private	34.5	34.9	34.5	34.5	34.8	34.9	34.8	34.7	34.8	34.7
Mining	41.8	42.7	41.9	41.6	(2)	(2)	(2)	(2)	(2)	(2)
Construction	36.1	37.2	36.4	36.2	(2)	(2)	(2)	(2)	(2)	(2)
Manufacturing	40.7	41.6	41.0	40.7	41.0	41.2	41.2	40.8	41.0	41.0
Overtime hours	3.6	4.2	3.8	3.7	3.7	4.0	3.9	3.9	3.9	3.9
Durable goods	41.3	42.4	41.7	41.4	41.5	41.9	41.9	41.5	41.8	41.6
Overtime hours	3.7	4.3	4.0	3.9	3.8	4.2	4.2	4.1	4.1	4.0
Lumber and wood products	39.8	40.4	39.6	39.1	40.3	40.7	40.3	40.3	40.3	39.6
Furniture and fixtures	38.9	40.5	39.2	39.0	39.5	39.4	39.4	39.2	40.0	39.6
Stone, clay, and glass products	41.5	42.2	41.5	40.8	42.3	42.5	42.6	42.4	42.6	41.8
Primary metal industries	43.2	44.1	43.8	43.4	43.1	43.8	43.7	43.4	43.7	43.3
Blast furnaces and basic steel products	43.9	44.2	43.9	43.7	43.8	44.3	44.0	43.7	43.9	43.7
Fabricated metal products	41.3	42.7	41.8	41.4	41.6	41.9	42.2	41.7	41.8	41.7
Machinery, except electrical	42.5	43.4	42.5	42.3	42.6	42.6	42.5	42.3	42.4	42.4
Electrical and electronic equipment	40.6	41.8	40.9	40.4	40.9	41.8	41.0	40.7	40.7	40.7
Transportation equipment	42.0	43.6	43.0	42.8	42.0	43.3	43.3	42.4	42.7	42.6
Motor vehicles and equipment	42.4	44.5	43.8	43.7	42.3	44.2	44.6	43.0	43.4	43.6
Instruments and related products	41.2	42.0	41.7	41.6	41.3	41.9	41.6	41.0	41.7	41.7
Miscellaneous manufacturing	38.9	39.7	39.3	39.2	39.3	39.1	39.2	38.9	39.5	39.4
Nondurable goods	39.8	40.5	39.9	39.7	40.2	40.2	40.2	39.9	40.1	40.1
Overtime hours	3.4	3.8	3.5	3.5	3.6	3.8	3.6	3.6	3.8	3.7
Food and kindred products	39.6	40.0	40.0	39.5	40.3	40.6	40.6	40.3	40.1	40.2
Tobacco manufactures	38.6	39.9	37.9	37.5	(2)	(2)	(2)	(2)	(2)	(2)
Textile mill products	41.3	41.1	40.6	40.5	41.6	41.8	41.8	40.5	40.8	40.7
Apparel and other textile products	36.7	37.1	36.7	36.7	37.0	36.8	37.0	36.6	37.0	37.0
Paper and allied products	43.0	44.0	43.2	43.0	43.3	43.2	43.1	43.1	43.1	43.3
Printing and publishing	37.8	38.4	37.7	37.6	38.1	38.0	37.8	37.7	38.6	37.9
Chemicals and allied products	42.3	42.9	42.5	42.4	42.4	42.5	42.4	42.3	42.5	42.5
Petroleum and coal products	43.3	44.3	43.3	43.3	(2)	(2)	(2)	(2)	(2)	(2)
Rubber and misc. plastics products	41.4	42.0	41.7	41.4	41.6	41.5	41.7	41.2	41.6	41.6
Leather and leather products	36.8	38.3	37.9	37.6	37.8	37.9	37.3	37.7	38.3	38.6
Transportation and public utilities	38.9	39.5	39.1	39.1	39.1	39.4	39.2	39.4	39.5	39.3
Wholesale trade	37.9	38.2	38.0	37.8	38.2	38.1	38.0	38.0	38.2	38.1
Retail trade	28.5	29.6	28.5	28.5	29.1	29.2	29.0	29.2	29.2	29.1
Finance, insurance, and real estate	36.4	35.8	36.2	35.8	(2)	(2)	(2)	(2)	(2)	(2)
Services	32.6	32.5	32.6	32.4	32.7	32.8	32.6	32.6	32.8	32.5

1/ Data relate to production workers in mining and manufacturing; construction workers in construction; and nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance; insurance, and real estate; and services. These groups account for approximately four-fifths of the total employees on private nonagricultural payrolls.

2/ These series are not published seasonally adjusted since the seasonal component is small relative to the trend-cycle and/or irregular components and consequently cannot be separated with sufficent precision.

p = preliminary.

ESTABLISHMENT DATA

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Table B-3. Average hourly and weekly earnings of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

Industry	Average hourly earnings				Average weekly earnings			
	Feb. 1988	Dec. 1988	Jan. 1989p/	Feb. 1989p/	Feb. 1988	Dec. 1988	Jan. 1989p/	Feb. 1989p/
Total private	$9.17	$9.44	$9.34	$9.34	$316.37	$330.13	$329.13	$327.22
Seasonally adjusted	9.13	9.43	9.38	9.51	317.72	327.92	330.68	330.88
Mining	12.71	12.97	13.11	13.03	531.28	553.82	549.31	542.85
Construction	12.82	13.16	13.21	13.16	462.80	469.55	480.84	476.39
Manufacturing	10.85	10.37	10.37	10.37	439.94	431.39	425.17	422.86
Durable goods	10.58	10.98	10.98	10.98	436.93	462.16	454.33	451.26
Lumber and wood products	8.51	8.75	8.78	8.69	339.49	357.58	344.52	339.78
Furniture and fixtures	7.74	8.04	8.07	8.06	301.09	325.62	314.34	314.34
Stone, clay, and glass products	10.33	10.58	10.68	10.60	426.63	446.48	439.99	432.48
Primary metal industries	12.83	12.27	12.27	12.23	519.70	541.11	537.43	538.78
Blast furnaces and basic steel products	13.89	14.07	13.99	13.96	609.77	621.89	614.16	610.85
Fabricated metal products	10.23	10.43	10.44	10.44	416.37	445.36	436.58	432.22
Machinery, except electrical	10.82	11.20	11.16	11.20	459.85	486.08	474.58	473.76
Electrical and electronic equipment	10.02	10.29	10.27	10.25	406.81	430.12	420.84	414.10
Transportation equipment	13.17	13.63	13.63	13.61	553.14	595.14	586.09	582.51
Motor vehicles and equipment	13.83	14.31	14.29	14.26	567.24	636.80	625.98	623.16
Instruments and related products	9.92	10.10	10.17	10.24	406.78	424.20	424.09	425.98
Miscellaneous manufacturing	7.90	8.17	8.22	8.20	307.31	324.35	323.03	321.44
Nondurable goods	9.31	9.60	9.62	9.62	370.54	388.80	383.84	381.91
Food and kindred products	9.06	9.24	9.28	9.30	356.78	376.73	371.20	367.55
Tobacco manufactures	14.01	14.18	14.33	14.71	540.79	565.78	543.11	551.63
Textile mill products	7.38	7.52	7.59	7.60	301.49	309.07	308.15	307.80
Apparel and other textile products	6.02	6.27	6.29	6.28	220.93	232.62	230.84	230.48
Paper and allied products	11.50	11.79	11.77	11.88	494.50	518.76	508.46	507.48
Printing and publishing	10.40	10.71	10.73	10.69	395.12	411.26	404.52	401.94
Chemicals and allied products	12.55	12.91	12.84	12.92	530.87	553.84	545.79	547.87
Petroleum and coal products	14.96	15.28	15.30	15.34	647.77	676.90	662.49	664.22
Rubber and misc. plastics products	9.08	9.27	9.32	9.29	372.68	389.34	388.66	384.61
Leather and leather products	6.19	6.43	6.49	6.53	227.79	247.04	243.97	245.53
Transportation and public utilities	12.23	12.43	12.51	12.48	473.73	498.99	488.14	487.97
Wholesale trade	9.78	10.12	10.22	10.22	370.66	386.58	388.36	386.32
Retail trade	6.23	6.42	6.47	6.49	177.56	198.83	184.48	184.97
Finance, insurance, and real estate	9.02	9.32	9.48	9.45	328.33	333.66	343.18	338.31
Services	8.81	9.15	9.24	9.27	287.21	297.38	301.22	300.33

1/ See footnote 1, table B-2.

p = preliminary.

Table B-4. Average hourly earnings of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry, seasonally adjusted

Industry	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989r/	Feb. 1989p/	Percent change from: Jan. 1989-Feb. 1989
Total private2/							
Current dollars	$9.13	$9.43	$9.42	$9.43	$9.50	$9.51	0.1
Constant (1977) dollars3/	4.84	4.84	4.82	4.82	4.82	N.A.	(4)
Construction	12.82	13.03	13.01	13.00	13.13	$13.17	.3
Manufacturing	10.83	10.28	10.29	10.31	10.32	10.33	.1
Excluding overtime5/	9.59	9.81	9.83	9.84	9.84	9.86	.2
Transportation and public utilities	12.19	12.43	12.37	12.36	12.50	12.43	-.6
Wholesale trade	9.72	10.13	10.04	10.08	10.14	10.16	.3
Retail trade	6.20	6.37	6.42	6.42	6.43	6.46	.9
Finance, insurance, and real estate	8.91	9.56	9.26	9.37	9.43	9.33	-1.1
Services	8.72	9.06	9.04	9.09	9.14	9.18	.4

1/ See footnote 1, table B-2.

2/ Includes mining, not shown separately, because its seasonal component is too small to be separated out with sufficient precision.

3/ The Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) is used to deflate this series. The seasonally adjusted CPI-W has been revised to reflect the experience through December 1988. Constant-dollar earnings series have been revised back to 1964.

4/ Real earnings were unchanged from December 1988 to January 1989, the latest month available.

5/ Derived by assuming that overtime hours are paid at the rate of time and one-half.

N.A. = not available.

r/ = preliminary.

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Table B-3. Indexes of aggregate weekly hours of production or nonsupervisory workers1/ on private nonagricultural payrolls by industry

(1977=100)

Industry	Not seasonally adjusted				Seasonally adjusted					
	Feb. 1988	Dec. 1988	Jan. 1989p/	Feb. 1989p/	Feb. 1988	Oct. 1988	Nov. 1988	Dec. 1988	Jan. 1989p/	Feb. 1989p/
Total private	128.1	128.9	124.5	124.1	123.9	127.1	127.1	127.2	128.3	127.9
Goods-producing industries	96.6	104.7	100.5	99.3	101.1	104.0	104.5	103.5	104.5	104.1
Mining	80.5	83.2	79.6	77.7	82.5	83.5	83.9	81.2	79.9	80.0
Construction	115.8	141.8	127.4	123.4	136.0	145.3	147.5	144.6	146.2	145.6
Manufacturing	93.7	98.6	96.3	95.7	95.2	96.9	97.2	96.6	97.4	97.2
Durable goods	91.6	97.2	94.9	94.2	92.7	95.2	95.6	94.8	95.7	95.3
Lumber and wood products	98.5	103.9	100.4	98.3	103.4	104.8	104.7	105.2	106.0	103.2
Furniture and fixtures	111.6	119.1	114.3	113.8	113.2	114.2	114.3	113.9	115.9	115.3
Stone, clay, and glass products	81.1	87.2	83.6	82.0	87.3	88.3	88.9	88.9	89.7	88.0
Primary metal industries	66.7	70.8	70.2	69.6	66.4	70.1	70.0	69.6	69.9	69.3
Blast furnaces and basic steel products	54.0	56.5	54.6	54.3	53.9	55.1	54.8	54.1	54.6	54.4
Fabricated metal products	89.5	96.3	94.2	93.1	90.8	93.6	94.6	93.7	94.5	94.6
Machinery, except electrical	90.0	96.9	95.1	95.5	90.2	93.7	94.3	94.3	95.0	95.7
Electrical and electronic equipment	101.1	105.9	102.8	101.3	101.8	103.4	103.7	102.3	102.1	102.2
Transportation equipment	98.1	103.0	100.9	100.1	97.3	100.7	100.8	98.7	100.3	99.3
Motor vehicles and equipment	85.4	94.2	91.8	90.3	85.7	91.9	92.6	89.0	91.2	89.7
Instruments and related products	104.8	111.2	110.2	110.0	105.0	109.5	109.0	108.3	110.4	110.4
Miscellaneous manufacturing	81.9	84.9	82.2	83.6	84.8	83.1	83.6	83.6	85.5	84.3
Nondurable goods	96.9	100.7	98.2	97.9	99.8	99.4	99.7	99.2	99.8	99.9
Food and kindred products	95.7	102.9	98.2	96.2	101.7	102.7	103.3	102.1	102.4	102.1
Tobacco manufactures	74.1	78.6	71.1	67.2	75.8	69.7	72.7	73.2	67.6	69.9
Textile mill products	81.8	80.4	79.4	79.3	82.7	80.2	80.2	79.1	80.1	79.9
Apparel and other textile products	84.6	85.3	83.8	84.9	85.5	83.9	84.9	84.2	85.4	85.7
Paper and allied products	100.2	103.5	100.9	100.2	101.5	101.3	101.3	101.5	101.1	101.5
Printing and publishing	136.5	141.0	137.5	137.4	135.5	137.6	137.2	137.5	138.7	138.7
Chemicals and allied products	96.4	100.7	99.5	99.5	97.1	99.7	99.4	99.5	100.5	100.2
Petroleum and coal products	80.4	84.9	81.2	81.7	84.5	87.3	86.3	86.7	85.7	86.1
Rubber and misc. plastics products	120.5	127.7	125.9	126.4	121.0	124.7	126.0	125.1	125.9	126.8
Leather and leather products	55.0	56.8	55.8	55.3	57.2	56.4	55.1	55.6	57.0	57.4
Service-producing industries	133.2	142.3	137.8	137.7	136.4	139.9	139.6	140.4	141.6	141.2
Transportation and public utilities	109.7	117.5	114.5	114.8	111.8	115.0	115.2	116.2	117.2	117.0
Wholesale trade	120.9	129.0	127.3	127.1	123.1	127.4	127.7	128.1	129.3	129.5
Retail trade	119.0	134.2	123.5	122.1	125.2	127.2	126.7	127.8	128.7	128.6
Finance, insurance, and real estate	140.2	140.5	140.7	139.0	141.6	141.2	140.4	140.0	142.4	140.3
Services	155.9	163.0	161.2	162.7	158.0	163.5	163.2	164.1	165.4	164.7

1/ See footnote 1, table B-2.

p = preliminary.

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Table B-6. Diffusion indexes of employment change, seasonally adjusted

(Percent)

Time span	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.
	Private nonagricultural payrolls, 349 industries1/											
Over 1-month span:												
1987	57.4	58.3	59.9	60.4	61.3	61.6	60.6	60.6	62.3	67.6	63.9	63.0
1988	60.3	60.6	64.0	63.0	58.9	60.6	62.3	58.2	54.0	62.5	60.9	61.7
1989	p/64.8	p/57.3										
Over 3-month span:												
1987	61.3	62.2	67.3	68.9	69.3	69.8	71.3	72.3	72.1	73.6	74.5	68.2
1988	70.6	68.8	68.5	67.2	69.1	69.8	68.6	61.9	62.6	68.3	71.9	p/74.6
1989	p/69.1											
Over 6-month span:												
1987	69.2	66.3	66.3	70.1	72.5	73.2	74.9	77.6	78.5	76.2	76.6	73.6
1988	72.2	71.5	70.8	74.2	72.2	69.1	68.6	74.5	71.1	p/72.6	p/72.6	
1989												
Over 12-month span:												
1987	68.1	70.3	71.1	74.1	76.6	77.2	77.6	77.8	79.1	78.7	77.8	80.5
1988	77.2	78.1	76.2	73.9	75.6	73.6	p/78.4	p/76.5				
1989												
	Manufacturing payrolls, 143 industries1/											
Over 1-month span:												
1987	46.8	52.5	53.9	56.4	58.9	59.7	67.7	56.0	64.2	60.8	64.2	61.8
1988	58.2	55.7	55.7	60.6	57.4	61.3	60.3	44.8	46.8	61.7	68.1	57.4
1989	p/61.0	p/51.8										
Over 3-month span:												
1987	50.7	50.7	58.5	63.8	63.5	68.4	69.3	73.8	70.2	74.1	74.5	67.0
1988	66.0	61.0	62.8	64.5	66.7	66.8	61.3	52.1	53.5	63.6	70.9	p/70.9
1989	p/62.1											
Over 6-month span:												
1987	58.5	57.1	57.1	64.7	69.1	74.3	75.9	76.6	79.4	76.1	72.7	72.3
1988	68.4	67.0	66.0	70.9	66.0	63.8	62.1	68.8	66.0	p/66.7	p/69.9	
1989												
Over 12-month span:												
1987	59.6	63.5	66.5	68.8	71.0	71.8	73.2	73.2	73.9	73.9	73.2	73.1
1988	74.1	72.3	68.8	70.6	72.0	70.9	p/72.3	p/69.9				
1989												

1/ Based on seasonally adjusted data for 1-, 3-, and 6-month spans and unadjusted data for the 12-month span. Data are centered within the span.

p/ = preliminary.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment.

Representative SOLARZ. Thank you very much, Mrs. Norwood.

How much lower can the unemployment rate go?

Mrs. NORWOOD. I don't know. I have been interested in that issue because, as a matter of fact, you and I have discussed this question before at committee hearings, and we did look at the literature to see what people are saying now about this.

There are many who believe that if the unemployment rate goes any lower, that we will have an increase in inflation. And there are others who believe that that is not so at all.

I think the important thing to recognize is that although the labor market is tight, it is not tight in all areas of the country. It is also not tight for all occupations and in all industries. So, there is still room for growth.

It is true, as I believe you have pointed out to me, that we have a sizable number of people who seem almost to be structurally unemployed, who just don't have the kind of training or other circumstances to participate adequately in the labor market. And we don't know exactly how many they are.

Representative SOLARZ. Do you have any statistics with respect to the number of jobs that have not been filled in any given point; in other words, the number of positions that employers are seeking to fill but for which at any given point in time they don't have someone to fill the job with?

Mrs. NORWOOD. We do not have any job vacancy data. That is an area that we have looked into many times over the years. It is very difficult to define a job vacancy, frankly.

Representative SOLARZ. How about getting the want ads in every paper in the country and adding them up?

Mrs. NORWOOD. Well, there are people who do that. The Conference Board has an index based on the help wanted ads. It is hard to know how representative they are. They are generally more representative of the jobs that require more training than of the jobs that people need very little training for.

In fact, Tom Plewes and I have discussed the issue of job vacancy data with other countries of the world, particularly the Australians, the Canadians, and some of the Europeans. They have found that it is extraordinarily difficult to define a vacancy and then to collect the data, the reason being that there may be a vacancy in a company for which the employer has someone inside the organization that he plans to move into the job, and it may not therefore be a fully realistic job vacancy.

We believe that it would be useful to have some data on job vacancies, provided they could be developed to show demand by occupation and by area of the country. And the problem with that, of course, is that it becomes a very expensive, very burdensome kind of survey. And there are other issues that are equally important or perhaps more important. So, we have not moved into that area.

Representative SOLARZ. I have really never focused on this aspect of the problem before. But it would seem to me that it does have some relevance for the implications one draws about the reasons for whatever level of unemployment happens to exist at a particular time.

For example, if you could devise job vacancy indexes and if it turned out that there were no available jobs, then you would have

to say that the unemployment that existed was presumably due to the fact that there weren't enough jobs available.

On the other hand, if you had a higher job vacancy rate than there were people looking for jobs, you might say that it had to do with lack of qualifications on the part of jobseekers or the fact that the jobseekers were in one part of the country and the vacancies were in another.

But if you look at it in those terms, wouldn't that have policy implications for how one approached the problem? In one case it would suggest a need for job-generating actions, and the other it would suggest a need for training programs to make qualified people for the jobs already existing.

Mrs. Norwood. I think there are two kinds of issues there. One is that we do need to be careful not to assume that the number of vacancies and the number of unemployed people should balance out, because that is not the way the labor market works. There is a lot of frictional unemployment of people in our labor market.

And particularly one of the things that makes the United States different than other countries is that there is so much movement. People do leave jobs and search for other jobs. And that is a good thing. So, you wouldn't want to have a situation where you tried to match these things.

Second, in the kind of free market that we have, there is a mechanism—that is, wages—which adjusts to draw people into jobs. We have, for example, a shortage of nurses in this country. We don't need job vacancy statistics to know that. All the hospitals will tell you that that is the case. We do not have many people going into the nursing profession. And there are lots of reasons for it: the type of work, the kind of regard with which society looks at nursing, and more important, perhaps, the wages or the salaries that nurses get.

So, even if we had job vacancy statistics, I am not sure what it would tell us about that.

Representative Solarz. If you eliminated the frictional unemployment, what would the unemployment rate be?

Mrs. Norwood. I don't really know. It clearly would be lower than it now is by a couple of points, but I don't know how many.

Representative Solarz. I am a little surprised to hear that. I would have thought that in your statistics, you would be able to more or less isolate those who are considered to be frictionally unemployed from those who are longer term unemployed.

Mrs. Norwood. I think we would certainly say that there are people who have been unemployed for long periods of time who clearly are part of the structurally unemployed group. There are people who have very little education and training, and we would put them in the structurally unemployed group. There are people who are in the process of changing jobs who would be frictional, but you can't put these together and add them up. That is the reason.

Representative Solarz. What impact do you think this drop in unemployment is likely to have on inflation?

Mrs. Norwood. I don't see that this particular 1-month number can be interpreted as having a very large effect on inflation. The more important element is not the unemployment, it is the employ-

ment side. And there we have close to 300,000 increase that shows the economy is still expanding, and there may be some inflationary effect.

Representative SOLARZ. Can we sustain a 5.1 percent level of unemployment for several months or longer without it having an inflationary impact?

Mrs. NORWOOD. Sure.

Representative SOLARZ. I am pleased to hear that.

Mrs. NORWOOD. In my view, I think everybody in the country who wants a job should have one.

Representative SOLARZ. The question is whether it has an inflationary impact. Your feeling is that we can sustain current levels of unemployment without having a negative consequence for inflation?

Mrs. NORWOOD. I think it depends on how this occurs. This is 1 month of unemployment data. The decline is mainly among young people, teenagers in particular, and minorities. I don't see that as heating up inflation. If it were based differently, it might perhaps do so. I just don't know.

I think most of the discussion of the 1970's about a noninflationary full-employment rate was something just that, for the 1970's. I think in the 1980's there have been enough differences so that most economists now are not looking at the so-called natural rate.

What I think we need to do is to look at what the factors are that are lowering the rate of unemployment and what the factors are that are underlying the changes in inflation.

Representative SOLARZ. What impact on the economy does the Eastern Air Lines strike have, or is it likely to have?

Mrs. NORWOOD. The Eastern strike by itself will certainly cause hardship for some people, but it should not have an effect on employment in general in this country.

If there were a breakdown in the whole transportation system—that is, if this were to spread—then I think there could be serious effects. But not just a strike for one airline in terms of the whole economy. It depends on how far it goes.

Representative SOLARZ. How serious is serious?

Mrs. NORWOOD. That is for a policymaker to decide.

Representative SOLARZ. Congressman Upton.

Representative UPTON. Thank you.

When was the last time that unemployment had dropped so low, to 5.1 percent, and how does this compare to the standing of other European countries today?

Mrs. NORWOOD. 1974 was the last time. And it is now lower than in most other countries, as well, certainly lower than Canada and the United Kingdom. However, all of the Scandinavian countries have lower unemployment rates than we do, as does Japan.

Representative UPTON. What are those rates?

Mrs. NORWOOD. Well, the unemployment rate in Sweden, for example, at the end of the year was 1.2 percent. The unemployment rate for Japan is just a little under 2.5 percent.

Representative UPTON. Our committee has heard quite a bit of testimony over the last couple of weeks as we look at various economic forecasts, whether it be an OMB forecast or the Blue-Chip forecast, interest rates, et cetera. How do these numbers track with

the Reagan administration forecast for fiscal year 1989? Are we doing better or worse?

Mrs. NORWOOD. Those that were embedded in the Reagan budget I believe have a lower rate of inflation than our Consumer Price Index is now showing. I am not sure the unemployment estimates are very different. It is slightly below what they had projected, but not very much so. I think the big issue is the inflation side.

Representative UPTON. What does the decline in the unemployment rate say about the health of our economy? And in saying that, do we need to evaluate the risk of overheating? Would it make sense, with the numbers so low, to look at the payroll survey employment increase or the unemployment rate?

Mrs. NORWOOD. It is always useful to look at employment growth and where it is taking place as well as unemployment. Unemployment is more of the social indicator, perhaps, than an economic one, although of course the supply of workers is an issue. We don't really know at what wage rate the large labor reserve that we have out there would come into the labor market. There are people who, under certain conditions, might come in and look for work. So, we don't really know how much of a labor reserve there is, except that we do know that there is some.

And I think the bigger issue seems to be at what rate can the economy continue to grow or should it continue to grow without heating up inflation. And for that, the employment and unemployment numbers are a good place to start. They are not the only thing that we should look at, but they are the first numbers issued for the month. There are no others out. They come out the first week of the next month generally. And there just are no others that are available at that time And they are showing that the economy is continuing to grow.

You will recall that last month, when we showed really whopping increases in employment, we cautioned that that needed to be looked at over a period of several months. Over the last 3 months, we have had growth of about 300,000 jobs a month. That is a lot, but it is not enormous. It is considerable. It shows that the economy certainly, at least in the labor market side, is not slowing very much, it is just chugging along nicely.

Representative UPTON. During the expansion, the employment growth has been very strong. I think we would all admit that.

Mrs. NORWOOD. Yes.

Representative UPTON. How many jobs have been created since this expansion began? And more importantly, how does this compare with the 1975 to 1979 recovery?

Mrs. NORWOOD. We have added about 19.7 million jobs, if you look at the business survey, which is I think the place to look. The household survey shows somewhat less; it is closer to 18 million jobs. It is a little difficult to compare that with the 1975–80 recovery because this recovery is so much longer. And so we have had so many more months to develop it.

Generally during the period of the earlier expansion, I believe the two were running about the same, weren't they? That is, the two periods of the expansion in terms of job creation.

Mr. PLEWES. The two expansions are quite similar in terms of their annual rates of employment growth.

Mrs. NORWOOD. So that considering the number of people in the work force, it was relatively comparable, but now that we are, what, 75 months into expansion, it is very hard to compare that to another expansion period which was much shorter.

One of the reasons that we create a lot of jobs in this country is because we have people coming into the labor force. And in the 1970's we had a very large number. We had the baby-boom generation. We had millions of people a year pouring into the labor market. Since the 1980's—we are beginning to have a smaller labor force increase, and as we move toward the year 2000 we are going to be seeing, we project, an even slower labor force growth. So, it will not be necessary to create as many new jobs in order to take up the slack of the labor force. It would be easier.

Representative UPTON. How well does the Phillips curve predict the relationship between inflation and the unemployment rate over the last 6 years?

Mrs. NORWOOD. Not very well. I think most people believe that there is more involved, more work needs to be done in understanding the Phillips curve relationships.

We had in the late 1970's in particular, into 1980, a very high rate of inflation that was stimulated by specific occurrences. We had the oil embargoes. We had particular food problems, caused often by weather. So that there were issues that related to the building up of inflation that I think were not strictly economic issues. They became economic issues, but they were not caused by economic concerns.

And even now, when we look at our price numbers, we have to be concerned about what the OPEC and the non-OPEC countries are going to do about the price of oil and about the supply of oil.

So, I think that because of circumstances of this kind, we have had to shift our approach to looking at inflation away from the structural economic forces to many other outside kinds of things. We had a drought that raised agricultural prices, for example, perhaps not as much as some people thought it would. But that is not something that can be factored into the Phillips curve kind of a relationship very easily.

Representative UPTON. What were the fastest growing occupational categories, and what proportion of those was accounted for in the difference between managerial and professional occupations?

Mrs. NORWOOD. The fastest growing were the managerial and professional occupations, clearly. I can't give you the specific figures, but we can submit them if you like.

Now, what was the second part of your question?

Representative UPTON. What proportion of the net addition of the employment was between the managerial and professional?

Mrs. NORWOOD. We can figure that out for you perhaps.

Representative UPTON. During the last 12 months. I don't know if you would have that.

Mrs. NORWOOD. It is more than half.

Representative UPTON. Well, thank you very much. I look forward to seeing you next month with the same good news. I hope. We can keep our fingers crossed.

Representative SOLARZ. Mrs. Norwood, I gather that there was a drop in productivity between the first and fourth quarters of 1988. Can you tell us why?

Mrs. NORWOOD. Well, there were some revisions in the output figures that are produced by the Bureau of Economic Analysis. And as a result, the nonfarm business sector had fairly low growth over the year.

I think, however, that you can see that output in manufacturing has kept up, with restraint on employment. So that over the last quarter in manufacturing we had 3.5 percent growth. That is pretty strong. We only had a 0.7 percent gain for the nonfarm business economy.

Representative SOLARZ. In productivity?

Mrs. NORWOOD. Yes.

Representative SOLARZ. Now, as you probably know, we are moving toward a vote on minimum wage legislation. So, this seems to be a particularly timely moment to get your views on this question.

I have a series of questions here I would like to ask and hope that your answers can illuminate this debate and guide us in the critical decisions we are going to have to make.

First of all, do you know how many workers currently earn the minimum wage?

Mrs. NORWOOD. Yes. There are currently about 3.9 million.

Representative SOLARZ. And could you tell us if the number has been going up or down in recent years?

Mrs. NORWOOD. It has been going down.

Representative SOLARZ. It is going down from what to what? What was it at its peak? What was it 5 years ago?

Mr. PLEWES. I don't have it at its peak. I can say that it was about 15 percent back in 1981.

Representative SOLARZ. 15 percent of the total labor force?

Mr. PLEWES. It was 15 percent of wage and salary workers paid at hourly rates.

Representative SOLARZ. And now?

Mr. PLEWES. Now it is 6.5 percent. As you know, we have an increasing labor force, so the levels are not really comparable. But the actual number back then was about 7.8 million. And now it is down, of course, to 3.9 million.

Representative SOLARZ. Can you tell us what the age distribution of minimum wage workers is?

Mrs. NORWOOD. About 35 percent are teenagers. Another fairly large group is 20 to 24 years old. So, about 60 percent are under 24—under 25, that is. And the other 40 percent are adults.

Representative SOLARZ. How many minimum wage workers are heads of household?

Mrs. NORWOOD. Do we know that?

Mr. PLEWES. Yes, if heads of households are defined as married with spouse present, 1.0 million.

Mrs. NORWOOD. Married with spouse present, that is not necessarily head of household. We would like to banish that term from our statistics, by the way.

We have married men and we have married women and we have women who maintain households on their own. Those are basically

the groups—and we can tell you, Tom Plewes was telling you, that there were—how many married men?

Mr. PLEWES. Total married men and women, 1.0 million at or below the minimum wage.

Representative SOLARZ. That is 1.0 million out of 3.9 million. So, roughly 25 percent of those earning the minimum wage.

Mr. PLEWES. 26.1 percent.

Representative SOLARZ. Are married men who——

Mr. PLEWES. Married persons.

Representative SOLARZ. Women or men.

Mr. PLEWES. Yes. Married men would be 233,000. Married women, 792,000.

Representative SOLARZ. And of that 26 percent who are married and are earning the minimum wage, do we know what percent, how many of them or what percent of them have spouses who are also working or not working, so that that is the sole source of income for the household?

Mr. PLEWES. We could find that out.

Mrs. NORWOOD. We could probably do a special run for you if you wanted that. But we don't have that list.

Representative SOLARZ. I think it would be interesting to have it. And if you also could figure out when the spouse works, where that brings their income, particularly in relation to the poverty level.

Now, that leads me to the next question, which is what percent of the poverty income is earned by a full-time minimum wage worker?

Mrs. NORWOOD. What percent of the poverty income?

Representative SOLARZ. Right.

Mrs. NORWOOD. Many of the people living in poverty do work.

Representative SOLARZ. I assume there is a figure which, for single persons, would indicate what the poverty level is, and it must be for a two-person household, what the poverty level is, three person, four person. For each of those situations, what percent of the poverty-level income does a full-time worker earning the minimum wage make? In other words, does a single person living alone, earning the minimum wage, working 40 hours a week, make 100 percent of the poverty level, 90 percent, 110 percent?

Mrs. NORWOOD. We can supply that for the record, but we don't have the specific poverty figures here. And we would just have to make an assumption that a minimum wage worker was working at the minimum wage for 2,000 hours during the year. We could do that.

We do know that about 6.0 million, a little more than 6.0 million people whose family income was below the official poverty level for 1987 worked or looked for work for at least half of the year. So, we do know that much, but not much more.

Representative SOLARZ. Presumably it's not difficult to figure out what percent of the poverty level the individual earning the minimum wage is making and then to calculate that for one-, two-, three-, and four-person household?

Mrs. NORWOOD. Yes, that is arithmetic.

Representative SOLARZ. Do you also have the capacity to determine how many people earning the minimum wage also have a

spouse working and what the collective income is in relationship to the poverty levels? Those are two separate items, Mrs. Norwood.

Mrs. NORWOOD. I don't think we can tell you the total incomes.

Representative SOLARZ. What I am trying to get at is a practical answer, not just theoretically where someone on the minimum wage is in relationship to the poverty level, but in reality. Given the fact that some of them or many of them may have spouses working, in reality where the people are earning the minimum wage and if they have a spouse working, what percentage of them are also on the poverty level, under the poverty level?

Mrs. NORWOOD. We will do the best we can.

Representative SOLARZ. I assume you have to do similar calculations in order to answer this question, which is, if Congress were to raise the minimum wage to $4.65 an hour, what percentage of the poverty income would be earned by a full-time minimum wage worker? That would be an interesting contrast for us to have in comparison to the previous set of questions.

Mrs. NORWOOD. First, the plan, as I understand it, the proposal, is to get there over a 3-year period. Anything we did, we would have to apply to 1987.

Representative SOLARZ. OK. Why don't you take it two ways: the legislation is a gradual escalation. So, can you take it——

Mrs. NORWOOD. We don't know what's going to happen 3 years from now. We don't know what the database is going to be.

Representative SOLARZ. Fine. Do the best you can.

[The following information was subsequently supplied for the record:]

Workers paid hourly rates, by employment and earnings of their families, 1988 annual averages

Intervals of hourly wage rates	Total	In families1/								
		Total	No other members employed	At least one other member employed	In families with wage and salary earners only					
					Total		No other members are earners		At least one other member is an earner	
					Number	Median weekly family earnings	Number	Median weekly family earnings	Number	Median weekly family earnings
Total	60,878	50,189	10,911	39,278	45,957	$622	10,910	$289	35,047	$730
Less than $3.35	1,319	1,033	197	836	890	489	197	98	693	611
$3.35	2,608	2,268	459	1,808	1,995	438	459	102	1,536	553
$3.36 to $3.85	3,709	3,129	549	2,580	2,782	473	549	125	2,233	573
$3.86 to $4.25	4,581	3,793	708	3,085	3,375	480	708	139	2,667	587
$4.26 to $4.65	2,636	2,166	421	1,745	1,943	498	421	181	1,522	601
More than $4.65	46,025	37,800	8,577	29,223	34,972	662	8,576	344	26,396	766
At or below $3.35	3,927	3,301	657	2,645	2,885	453	657	101	2,229	571
At or below $3.85	7,636	6,431	1,206	5,225	5,668	463	1,206	113	4,462	572
At or below $4.25	12,217	10,223	1,914	8,310	9,043	470	1,914	127	7,129	577
At or below $4.65	14,853	12,389	2,334	10,055	10,985	474	2,334	134	8,651	582

1/ In addition to the exclusion of persons living alone or with nonrelatives, this category also excludes persons in unrelated subfamilies and persons in primary families where the husband, wife, or other person maintaining the family is in the Armed Forces.

Bureau of Labor Statistics
U.S. Department of Labor

Year-round full-time wage and salary workers in 1987 by minimum wage and poverty status, based on March 1988 CPS

(Numbers in thousands)

	Total	In poverty	
		Number	Percent of total
Total	71,126	1,339	1.9
Minimum wage worker (average weekly earnings <= 40 X $3.35 = $134)	2,543	738	29.0
Workers with average weekly earnings <= 40 X $3.85 = $154)	4,458	894	20.1
Workers with average weekly earnings <= 40 X $4.25 = $170)	5,304	951	17.9
Workers with average weekly earnings <= 40 X $4.65 = $186)	6,673	1,034	15.5

Bureau of Labor Statistics
U.S. Department of Labor

Hourly earnings of workers paid hourly rates, by selected characteristics, 1988 annual averages

(Numbers in thousands)

CHARACTERISTIC	Total paid hourly rates	$3.35 or less	$3.36 to $3.99	$4.00 to $4.24	$4.25 to $4.49	Percent of workers paid hourly rates: $3.35 or less	$3.36 to $3.99	$4.00 to $4.24	$4.25 to $4.49	Percent distribution: Total paid hourly rates	$3.35 or less	$3.36 to $3.99	$4.00 to $4.24	$4.25 to $4.49
SEX AND AGE														
Total, 16 years and over	69979	3927	7056	10317	14483	5.6	10.1	14.7	20.7	100.0	100.0	100.0	100.0	100.0
16 to 24 years	18779	2291	4334	6666	7994	12.2	23.1	35.5	42.6	26.8	58.3	61.4	64.6	55.2
16 to 19 years	6139	1418	2667	3643	4389	23.1	43.5	59.4	71.5	8.8	36.1	37.8	35.3	30.3
20 to 24 years	9640	883	1667	2725	3604	9.2	17.3	28.3	37.4	13.8	22.5	23.6	26.4	24.9
25 years and over	45199	1646	2702	3649	7190	3.6	7.3	12.5	15.9	64.1	41.9	38.3	35.4	49.6
25 to 34 years	15060	701	1287	2330	3484	5.0	7.8	15.0	16.8	20.0	17.9	18.2	19.1	20.2
35 to 44 years	12758	371	758	1383	1737	2.9	5.9	10.7	13.6	21.0	9.4	8.9	11.2	11.7
45 to 54 years	8667	236	488	680	1121	2.9	5.2	10.9	13.9	13.2	6.0	6.5	7.2	7.6
55 to 64 years	8013	217	420	791	884	4.3	8.4	14.9	17.8	8.2	5.5	5.5	6.7	6.0
65 years and over	1346	122	251	366	464	9.0	18.5	30.4	38.4	2.0	3.1	3.0	3.0	3.1
Men, 16 years and over	31666	1577	2739	4089	6875	4.4	8.0	14.7	18.8	61.0	58.1	55.7	57.0	57.5
16 to 24 years	9188	948	1834	2927	3492	11.0	22.0	35.0	42.2	13.4	24.1	24.3	24.8	23.2
16 to 19 years	3166	618	1197	1706	2039	19.8	38.5	57.0	65.5	5.1	15.7	15.7	14.7	13.7
20 to 24 years	6070	330	636	1139	1416	6.5	12.9	22.2	27.9	8.3	8.4	8.6	8.2	8.5
25 years and over	22572	631	975	1632	2122	1.9	5.3	7.1	9.3	37.6	11.9	11.5	13.4	14.3
25 to 34 years	8073	193	418	750	1018	2.4	4.9	7.8	10.5	10.9	4.9	5.4	6.2	6.9
35 to 44 years	6266	99	151	327	418	1.5	2.4	5.2	6.6	10.3	2.5	2.0	2.7	2.8
45 to 54 years	3949	43	92	169	240	1.2	2.4	4.3	6.2	6.3	1.1	1.2	1.5	1.6
55 to 64 years	3427	91	121	304	353	2.5	4.9	8.3	10.2	4.1	1.8	1.8	1.7	1.7
65 years and over	857	82	96	164	194	8.7	15.9	26.6	22.5	1.0	1.3	1.2	1.3	1.3
Women, 16 years and over	38313	2349	4317	7650	8579	6.0	10.8	25.7	31.1	49.0	64.9	64.3	63.7	62.5
16 to 24 years	7583	1355	2440	3642	4211	17.8	32.7	48.0	55.5	12.5	34.2	32.5	30.8	30.4
16 to 19 years	3022	802	1473	2047	2364	26.5	48.8	67.7	78.2	5.0	20.4	19.5	18.0	16.4
20 to 24 years	4561	533	1011	1595	1918	11.7	22.2	35.0	42.1	7.5	13.8	13.2	13.1	12.0
25 years and over	30237	1215	2439	4017	5367	4.0	8.9	13.1	22.8	36.5	30.9	31.8	32.9	34.1
25 to 34 years	6827	307	661	1581	1979	6.1	11.9	19.9	28.7	13.7	13.9	12.5	15.9	15.3
35 to 44 years	6527	291	606	1035	1321	4.5	9.3	15.9	20.2	10.7	7.4	7.9	8.5	8.9
45 to 54 years	4298	191	404	691	861	4.5	9.4	16.1	20.0	6.9	4.9	5.3	5.7	6.0
55 to 64 years	3636	136	299	487	629	3.7	11.9	19.7	24.9	4.1	4.0	3.9	4.1	4.3
65 years and over	948	69	136	212	369	10.8	21.4	32.7	38.9	1.1	1.9	1.8	1.7	1.7
FAMILY RELATIONSHIP														
Husbands	14510	217	468	882	1197	1.5	3.2	5.4	7.3	37.1	5.5	6.1	7.3	8.1
Wives	14011	744	1535	2310	2941	5.3	10.3	17.8	22.8	34.3	18.9	20.0	21.4	22.5
Women who maintain families	5965	392	840	885	1060	7.9	14.9	23.2	30.0	8.1	7.4	7.2	7.0	7.0
Men who maintain families	1166	35	67	139	186	3.3	6.2	11.4	14.0	1.8	0.9	0.7	1.0	1.0
Other persons in families	14075	2504	3809	5740	6868	14.4	27.2	40.9	47.4	20.1	51.3	49.2	47.0	44.9
Men	7526	994	1745	2749	3527	11.8	22.3	36.1	41.4	12.9	23.0	22.5	22.5	21.8
Women	6544	1119	2063	2992	3439	17.0	30.3	47.9	54.9	10.3	28.5	27.3	24.5	23.1
Children of those maintaining family	12168	1882	3511	5211	6017	15.3	28.9	42.8	49.4	20.0	47.1	46.0	42.7	40.5
Sons	6742	828	1603	2479	2902	12.3	23.8	36.7	43.0	11.1	21.1	21.0	20.3	19.5
Daughters	5426	1022	1908	2726	3115	18.8	35.2	50.4	57.4	8.9	26.0	25.0	22.4	21.0
Persons living alone	6463	268	558	844	1043	4.0	8.3	16.4	19.1	9.0	6.8	6.6	6.9	7.0
Men	2814	90	171	286	378	3.2	6.1	10.8	13.4	4.6	2.3	2.2	2.4	2.5
Women	3649	179	386	545	664	4.9	12.6	20.0	25.1	4.4	4.6	4.4	4.5	4.5
Persons living with a nonrelative	6225	367	699	1150	1422	5.9	13.4	22.0	27.2	8.8	9.1	9.2	9.4	9.8
Men	2983	142	283	484	604	5.1	10.1	17.8	21.7	4.8	3.6	3.7	4.0	4.1
Women	3433	219	416	666	814	6.9	17.2	27.1	32.8	4.0	5.5	5.4	5.4	5.6
USUAL FULL- OR PART-TIME STATUS														
Full-time workers	48887	1312	3825	5210	6960	2.9	6.2	11.4	16.1	74.9	33.4	37.0	42.0	48.2
Men	29331	482	1074	2104	3822	1.8	4.1	8.0	10.7	43.3	12.3	14.1	17.2	19.0
Women	19256	830	1750	3106	4042	4.3	9.1	16.1	21.0	31.8	21.1	22.9	24.4	27.2
Part-time workers	16291	2614	4611	7008	7988	17.1	31.5	48.0	52.5	25.1	66.6	63.0	57.4	50.9
Men	4727	995	1665	2455	2753	10.9	35.0	51.9	58.2	7.8	22.9	21.7	20.1	18.5
Women	10864	1720	3157	4853	5237	16.3	29.9	43.1	48.0	17.4	43.8	41.3	37.3	35.3
RACE, HISPANIC ORIGIN, AND SEX														
White	61239	3235	6269	10068	12391	5.3	10.3	16.7	20.9	84.2	82.4	82.4	82.8	82.5
Men	26235	1085	2191	3670	4534	4.1	8.4	14.0	17.3	43.1	27.6	28.7	30.1	30.5
Women	35014	2150	4099	6413	7737	6.1	10.4	26.3	30.9	41.1	54.7	53.7	52.6	52.1
Black	7930	590	1145	1705	2176	7.7	14.5	22.3	27.4	10.9	15.3	15.0	14.7	14.7
Men	3507	342	648	737	971	9.2	11.4	18.8	22.2	5.5	8.2	8.5	6.0	6.9
Women	3900	357	698	1066	1306	9.1	17.9	27.1	33.5	5.4	8.1	8.2	8.7	8.8
Hispanic	5284	502	957	1267	1691	9.5	18.2	26.1	32.0	5.9	8.2	8.8	10.2	10.5
Men	2895	159	395	606	778	4.8	8.8	15.6	20.7	3.4	3.3	3.9	5.0	5.3
Women	2189	183	393	641	766	8.1	17.1	30.1	36.9	3.5	4.9	4.8	5.2	5.3

Bureau of Labor Statistics
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Representative SOLARZ. How many teenagers are working at the minimum wage? You said that was 40 percent?

Mrs. NORWOOD. Teenagers, about 1.4 million, at or below the minimum wage.

Representative SOLARZ. 1.5 million.

Mrs. NORWOOD. 1.4 million.

Representative SOLARZ. Out of the 4.0 million?

Mrs. NORWOOD. These are all people who are paid at the hourly rate.

Representative SOLARZ. If Congress were to raise the minimum wage to $4.65 an hour, what do you think the effect would be on the employment and unemployment of teenagers?

Mrs. NORWOOD. I don't really know that.

Representative SOLARZ. I am leading you slowly into the thicket, very gradually, step by step.

Mrs. NORWOOD. I noticed that. [Laughter.] I can tell you that we have examined the empirical literature and that it shows that for teenagers there does seem to be—let me rephrase that more carefully.

Economists who have done empirical work on the effect of an increase in the minimum wage on teenage employment have found a relationship for teenagers. Not very much of a relationship otherwise in terms of the disemployment effect, but for teenagers they have found a disemployment effect.

Representative SOLARZ. Can you elaborate on that, and how much of a disincentive?

Mrs. NORWOOD. I don't have the figures with me. I think we have sent you one of these studies or the study. But my recollection is it is something like a 10-percent change in the minimum wage would bring about a 1.0-percent drop in employment. I would have to look at the study to be sure.

Representative SOLARZ. Congressman Upton.

Representative UPTON. A quick followup. Would that also tend to play out into those 20 to 24 year olds as well with the same relationship? Would that same relationship be there?

Mrs. NORWOOD. I am not sure about the coverage of the studies. My recollection is that the findings focused only on the 16 to 19 year olds, and that the studies did not find that much of an effect on other groups of the population.

I would be glad to send you a copy of the study.

Representative SOLARZ. I think you said teenage unemployment was around 14 percent.

Mrs. NORWOOD. Yes. Yes, it is 14.8 percent.

Representative SOLARZ. Now, how much of that unemployment among teenagers, in your judgment, is caused by the minimum wage and how much by other factors such as where they live or their lack of skills, that sort of thing?

Mrs. NORWOOD. I can't really answer that question. First of all, we don't have any data. And second, the minimum wage, I think all sides to this issue agree, is now in most areas of the country considered relatively low because of inflation. Not in all areas, but certainly in the Northeast, for example, and elsewhere. So, it is hard to know whether it has an effect or not.

Representative SOLARZ. What is the minority teenage unemployment rate?

Mrs. NORWOOD. That is 32.4 percent.

Representative SOLARZ. It generally seems to be twice as high as the overall teenage unemployment rate.

Mrs. NORWOOD. Yes. Clearly.

Representative SOLARZ. Do you have any basis for calculating the extent to which the minority teenage unemployment rate is attributable to the minimum wage and to what extent it is attributable to other factors?

Mrs. NORWOOD. Not really, no. I don't think that there is any way that anybody can do that really effectively. People do it, but I don't think that there is a way to do it that you can really stand behind very effectively.

There are too many other factors that enter into that. And right now especially we have a situation where we have a declining number of teenagers in general. We have areas of the country where it is very difficult to find teenagers to work at the current minimum wage of $3.35 an hour.

So, the speculation really, when it gets interesting is that if you raised it by *x* or *y* amounts, what would the effect be, we all know that the current minimum wage is really not very much of a deterrent in most parts of the country because earnings have gone up so much more. It hasn't been changed since 1981.

Representative SOLARZ. What kinds of jobs pay the minimum wage?

Mrs. NORWOOD. Unskilled jobs primarily, mostly retail trade establishments, fast-food restaurants, that sort of thing.

Representative SOLARZ. So, these are not people who are supplementing their income through tips, by and large? Or are they?

Mrs. NORWOOD. There are some, certainly, who are. But not all of them. Absolutely not.

Representative SOLARZ. Could you let us know how many?

Mrs. NORWOOD. We don't really know very much about people who get tips. It's very hard to collect information on that.

Representative SOLARZ. The 5.1 percent who are unemployed, that comes to how many people?

Mrs. NORWOOD. Let's see, we were talking about the civilian unemployment; 6.3 million.

Representative SOLARZ. As I understand it, these are by definition people who say they are looking for work.

Mrs. NORWOOD. Yes. That's right.

Representative SOLARZ. What do we mean by "looking for work"? Are these people who according to the definition are actively seeking jobs, or are they people who, you know, would like to work if a job were available but may be sitting at home all day taking care of the family or watching television or whatever, hanging out on the corner here?

Mrs. NORWOOD. That is something that has been of some interest to us, and we have recently in our new cognitive or collection procedures laboratory tried to experiment to find out what we can about that. We brought in some groups of unemployed workers and we administered the questionnaire to them. This is an interdisciplinary effort, and we have some psychologists and statisticians work-

ing together as well as linguists. And I can tell you that after administering the questionnaire, they engaged in what is called focus group discussions.

And in any case they tried to find out how the people who responded thought about the questions, what the questions meant to them. And one of the interesting things thus far—and this is only with a few groups of people, but it is encouraging to me—is that most of these people have said that their view was that before they could say yes to the question of whether they had looked for work they had to do more than just pick up a newspaper and look at the help wanted ads. They had to actually go out and try to do something, to use the telephone or to speak to people or to actually go out and look before they would say yes to that question.

Mr. PLEWES. When we asked people about the kinds of things they actually do, in the survey, we find that about 24 percent of the people actually go to public employment agencies to look for work; about 8.0 percent of them use a private employment agency; answering want ads, about 36 percent; ask friends and relatives for help looking for work for them, about 18 percent; and about 74 percent say they actually go to an employer directly to a hiring facility to look for work.

Representative SOLARZ. Your impression is that these are people who in fact are actively looking for work?

Mrs. NORWOOD. That is our impression. We are going to continue this kind of testing because I think it is an important issue.

Representative SOLARZ. Yes.

I understand that since 1981 you have prepared an annual report on hardship.

Mrs. NORWOOD. Labor market-related hardship.

Representative SOLARZ. Have you had any problems in compiling this?

Mrs. NORWOOD. A great many problems, yes. It is very difficult partly because you get into the basic problems of how do you aggregate data in a meaningful way for particular groups of the population and what definitions do you use.

We believe very strongly that we ourselves at BLS should not be developing a particular standard and saying here is what it is. So, what we have to use are existing standards like the minimum wage and the poverty figures.

And the second problem we have is that the only data that are available for use come from the supplement to the current population survey, which is taken retrospectively. You ask people about the preceding year, and that means that the data we are working with now, are 1987 data.

We have started work on this, and it will take some time. We have just received the information. But we will be putting out some kind of report.

Representative SOLARZ. Of the 6.0 million or so people that are unemployed, do we have any estimate as to the number who might be characterized as being in the underground economy, numbers runners, dope dealers, people who are earning income but not reporting it, burglars, muggers, you know? I don't know what other occupations there are in this category. How many of them are actu-

ally earning income but they just don't have aboveground, legitimate jobs, legal jobs?

Mrs. NORWOOD. I really can't give you a definitive answer to that. What I can tell you are two things, really:

One is that we have discussed this at OECD meetings with our colleagues in other countries, and they are very concerned about it. Some of them have tried to take steps to get this information. But they have not been very successful.

I have spent some time talking to the data collectors themselves who go out in this case on the labor force survey. They are Census Bureau data collectors who go out to households to collect the data. And I have asked them questions about how much they think people are evading them and so on.

They apparently have some interesting techniques for trying to be certain if there are young people there, to get the information about them. I am certain that we are not getting all of that information. But I am equally certain that we are getting at least some of it.

Representative SOLARZ. I didn't get any of it. But that is neither here nor there.

Mrs. NORWOOD. I cannot give you a number.

Representative SOLARZ. Let me pursue this. On what basis do you determine the number of people unemployed at any given time? How is that information collected?

Mrs. NORWOOD. A trained interviewer, a data collector, goes to a house in person or after having visited, does a followup by telephone, and asks a series of questions.

The questionnaire is carefully structured. If the person says that he or she has not worked at all during the survey week, not even for 1 hour, then that person is classified as not employed. And then if the person says that he or she is available for work and looking for work, then the person is classified as unemployed otherwise——

Representative SOLARZ. Presumably this is a random sample.

Mrs. NORWOOD. Yes, scientifically selected.

Representative SOLARZ. Then you project the results nationally?

Mrs. NORWOOD. Yes.

Representative SOLARZ. How large is the sample?

Mrs. NORWOOD. 50,000 to 60,000.

Representative SOLARZ. A pretty large sample.

Mrs. NORWOOD. It is an extremely large sample because of all the breakdowns of demographic data.

Representative SOLARZ. Where do they find the people?

Mrs. NORWOOD. Where do they find them? In households throughout the country.

Representative SOLARZ. They go to their homes, their apartments?

Mrs. NORWOOD. Yes.

Representative SOLARZ. They do not stop people on the street?

Mrs. NORWOOD. No. This is a sample of households which comes from the decennial census, updated.

Representative SOLARZ. I want to pursue this. I have never focused on it before. It seems to me it may have some implications.

Mrs. NORWOOD. It is an important area.

Representative SOLARZ. First of all, if somebody is in the illegal economy, I guess there is a question of whether they are in the illegal economy out of preference or necessity.

Mrs. NORWOOD. We don't ask that question.

Representative SOLARZ. That raises another question.

Mrs. NORWOOD. Yes.

Representative SOLARZ. Why are they in the illegal economy? Because they can't get a legal job, or are they in the illegal economy because they can make much more money or they enjoy the shot of adrenalin they get every time they pop somebody over the head and run away from the police or take their narcotics or whatever.

But there must be a lot of people in the illegal economy in this country. My recollection is—we may have this—I think we have about half a million people in prison in this country.

Mrs. NORWOOD. We don't have that information, but that may be true.

Representative SOLARZ. I think it is around a half million. Now, I have to assume that for every crook in jail there are several out on the streets who haven't been arrested and convicted. You just have to look——

Mrs. NORWOOD. Maybe.

Representative SOLARZ. Not maybe. It is. You look at New York City, and you can see there are lots of——

Mrs. NORWOOD. You can look at Washington, DC.

Representative SOLARZ. There are lots of people who get arrested and indicted and convicted and don't go to jail because they plea bargain it out, there is no room in the jails, and that sort of thing. And then obviously it stands to reason that not everybody who commits a crime is arrested because there are many more crimes reported than there are people arrested.

It also follows that for every person in jail there must be several—now, whether it is 3 to 1, 10 to 1, I don't know—but let's say for argument's sake it's 5 to 1. That would imply there are 2.5 million people out there committing illegal acts. Obviously there are a lot of prostitutes in the country, a lot of dope dealers, a lot of burglars. There are people running the numbers games, things like that.

If you add up all of those people, it must come to not insignificant amounts, presumably a few million. Now, how would you add that group to those who are considered to be unemployed? Is that a totally separate group, do you think?

Mrs. NORWOOD. No, I don't think so. You are making the assumption that those people who are working at something that happens to be illegal——

Representative SOLARZ. Are not working in a legal job.

Mrs. NORWOOD. You are making the assumption that if they are working in an illegal job of some kind, that they are reporting themselves as unemployed.

The point I was trying to make before is that we think that many of them are telling us that they are working. We don't ask them whether it is illegal or not. We do know that we have people who are prostitutes who report to us that they are working. We know that for a fact.

Representative SOLARZ. Is that in services or manufacturing? [Laughter.]

Mrs. NORWOOD. Services.

Representative SOLARZ. What about selling dope?

Mrs. NORWOOD. Most of that is services. It's retail trade.

Representative SOLARZ. But you don't know what they are saying?

Mrs. NORWOOD. We do not ask people whether what they are doing is illegal. We merely ask them what they are doing. We work very hard to get them to understand that whatever information they provide to us will be held confidential.

Representative SOLARZ. Do you think this might be worth exploring further?

Mrs. NORWOOD. I don't know how to do it. That's the big problem.

Representative SOLARZ. I think there are several ways. I am not a statistician, but you could, for example, take the target population—by target population, I mean people in the underground or illegal economy—and you could get a control group of those people and ask them these questions and see what kind of answers you get compared to what you ask a group in the legal economy.

Mrs. NORWOOD. First of all, I'm not sure that we know enough about who is in the underground economy so that we could identify them and draw us a sample that is representative; and second, I don't think that we could actually send data collectors out to places that sell drugs and expect those people to ask questions and get good answers.

I would worry about sending them out there.

Representative SOLARZ. Why not send them to the courthouse or the jailhouse? In other words, take people who have already been apprehended and do a retrospective analysis.

Mrs. NORWOOD. There already are lots of surveys of offenders.

Representative SOLARZ. The point is whether they consider themselves employed or not.

Let me ask you this. From our point of view looking at this, we have these monthly meetings because they have implications presumably for public policy.

Mrs. NORWOOD. Yes.

Representative SOLARZ. Does it have any implications for public policy if people in the illegal economy consider themselves employed or if they consider themselves unemployed?

Mrs. NORWOOD. I am not sure about that. No, I don't think so.

Representative SOLARZ. Suppose 40 percent of the people who are unemployed are in the illegal economy but consider themselves unemployed even though they are working, or supposing 10 percent of the people who say they are employed are in the illegal economy. Should we know that?

Mrs. NORWOOD. Obviously we would like to have, for the national accounts and for other purposes, a database that is as comprehensive as possible. And we do the very best job that we can.

Now, are there other things we could do? I suppose that if we had unlimited resources, we could dream up a number of projects to do. I am not sure what the payoff would be or whether the benefit that we would get in terms of statistical information would be worth the cost.

Representative SOLARZ. But we have no estimates, let alone hard figures, as to the number of people in the illegal economy in the country.

Mrs. NORWOOD. There are a lot of people in this country who make estimates of that. And in fact, many of them argue that we are severely understating unemployment or overstating unemployment. As a result, we have looked at those and in fact we published an article recently on that subject. The problem is that many of those people do not understand many of the techniques that we use in our surveys to try to get at some of these people.

We are now thinking about what the possible effects might be of the immigration legislation that was passed. Is there an increase in the number of people who are coming in illegally or a decrease? And if they are, where are those people going, and are we finding them? We don't know the answer to that. We worry about it. We try to look at it. We try to work at it. But I can't sit here and tell you that we know how to do it.

Representative SOLARZ. Since the implementation of employer sanctions as a result of the immigration legislation, do you have an estimate of the number of illegal aliens still working in the country?

Mrs. NORWOOD. We did contact the Immigration and Naturalization people, but we were not able to get any real information from them.

We can provide to you a short summary of some of the things we have done.

Representative SOLARZ. I think there are two questions here. If you could, provide some answers: Any estimate as to the number of illegal aliens in the country; and then the other would be the number of illegal aliens who are working.

Mrs. NORWOOD. Sure.

Representative SOLARZ. Now, do you have any figures on unemployment in the inner cities?

Mrs. NORWOOD. We have some local labor market information for particular areas of the country. The smaller the area the more difficult it is. But we do have—we have Manhattan, I suppose.

Mr. PLEWES. We have central cities in the metropolitan areas.

Mrs. NORWOOD. The answer is yes, we have some, but not a lot.

Representative SOLARZ. If you could give us that.

Have you read William Wilson's book on the "Truly Disadvantaged"?

Mrs. NORWOOD. No. Should I?

Representative SOLARZ. I think you should. I think it is a fascinating book.

Mrs. NORWOOD. William Wilson?

Representative SOLARZ. Yes. He is a sociologist from the University of Chicago, and my impression is that it is one of the most insightful commentaries on the problem of the underclass, its causes and consequences, that has yet been written.

He attempts to answer such questions as why there is such a high rate of out-of-wedlock births in inner cities and why the welfare rates are so high and why it is a relatively small percentage of the young women who are giving birth that are married or getting married and that sort of thing.

But in essence, it is a complex argument, but I think the essence of it is that it is largely due to the shift in the economy from a manufacturing economy to a service and information-based economy and that there has been a particular loss of jobs, he claims, in manufacturing in the inner cities which probably has been greater than the decline in manufacturing jobs nationally.

Many manufacturing jobs moved out of the inner cities, whereas the people who remain in the inner cities tend to lack the skills that are needed for the new jobs in information and services. So, these people have a disproportionately high unemployment rate.

Does that make sense to you?

Mrs. NORWOOD. Sure it does. Yes, very much so. And I will read the book.

Representative SOLARZ. He says that is one of the key factors in the high rate of births out of wedlock. He has an index of what I think he calls "marriageable men"; that is to say men who are earning, have a job and can support a family. And in these communities, the ratio of marriageable men to single women is much lower than elsewhere. So that the number of marriageable men a young woman has who could support her and a family is much less then elsewhere.

So, he claims that that is one of the main reasons for the dramatic increase in out-of-wedlock births, the implication being that if more jobs could be made available in these areas, that the number of out-of-wedlock births would significantly decline.

If you could read it, I would be interested in your reaction to some of the arguments that he makes.

Mrs. NORWOOD. I will. OK.

Representative SOLARZ. I gather from what you said earlier that you are not overly concerned about this last month's increase in the Consumer Price Index.

Mrs. NORWOOD. I am always concerned when I see the Consumer Price Index going up. The question is what does it mean for the long run? It is quite clear that there is some increase in prices. Even if you take out food and energy, which have special situations, the index excluding food and energy has increased. So, there is a clear price increase going on. However, as you know, we believe that the single-month figure of January both in the Producer and the Consumer Price Indexes should not be looked at just by itself.

Representative SOLARZ. You indicated a little bit earlier, I think, in response to one of Congressman Upton's questions, that the unemployment rate in Japan and the Scandinavian countries is substantially below ours, 2.0 percent or somewhere in that area. Do you know what the inflation rate is in those countries? Is it comparably low?

Mrs. NORWOOD. Yes, we do have that. The inflation rate in Japan is low. It is only about 1.0 percent.

And in Sweden it is a little bit higher; it is about 6.0, a little over 6.0 percent. But, of course, they calculate their indexes somewhat differently from the way in which we do, and that could affect things.

I should also point out that in Japan there are a lot of different approaches to the labor market. People, for example, retire at what

we would consider an early age of 50 or 55. And if you were to consider some of those people who are discouraged and include those in the unemploymemt rate and include the discouraged in our unemployment rates, the differences would be really very small. They would have practically the same unemployment rate as we.

Representative SOLARZ. Do you know what the savings rate is in the Scandinavian countries?

Mrs. NORWOOD. No, I don't, offhand.

Representative SOLARZ. My impression is that most economists would say that one of the reasons Japan has the low unemployment rate and the low inflation rate is because they also have a very high savings rate. But it would be interesting to see if that were applicable to the Scandinavian countries.

Mrs. NORWOOD. It is a totally different economy, of course.

Representative SOLARZ. But to the extent that both Japan and the Scandinavian countries have unemployment around 2.0 percent, doesn't that suggest that theoretically it should be possible for us to get down to that level also?

Mrs. NORWOOD. If we were to count unemployment the way they do in Japan, we could probably be there, you know. If we had the same kind of labor market that they have, if we had people who left employment because they had to retire at, say, age 55 and we did not count them as unemployed, we would be closer to where they are.

Representative SOLARZ. That is very interesting.

Mrs. NORWOOD. So, I think that there are some issues there about comparability that we need to be careful about. Surely the Japanese are doing well. I do not suggest that they are not.

Representative SOLARZ. Well, that is a very fair——

Mrs. NORWOOD. I don't think the difference is quite as large as the difference between 2.0 percent and 5.0 percent would imply.

Representative SOLARZ. What about Scandinavia?

Mrs. NORWOOD. That is a different sort of situation because you have an economy where the Government is deliberately creating jobs. And there are all kinds of arrangements for people to work, women as well as men. Child care facilities, all sorts of other things.

So, it is a very different kind of thing. It would be amazing if you had a policy of that kind and you had high unemployment.

Representative SOLARZ. And finally, do you think it is possible that the unemployment figure will continue to drop?

Mrs. NORWOOD. I don't know. As I have said, I believe that we want to see opportunities for everyone in this country, and I suppose that means dropping the unemployment rate. But it gets more and more difficult as you get down to the 5.0 percent range, there is no doubt about that.

Representative SOLARZ. Do you think it is possible it could go lower?

Mrs. NORWOOD. Sure it's possible it could go lower. It could go higher.

Representative SOLARZ. But it could go lower?

Mrs. NORWOOD. Yes.

Representative SOLARZ. Is there a point at which you would say it can't go any lower?

Mrs. NORWOOD. Yes. Probably. But I think that it could go lower. I don't know what the repercussions of that would be, which is what people are concerned about.

Representative SOLARZ. What do you think the rockbottom unemployment rate would be?

Mrs. NORWOOD. I don't know. I don't like to think in those terms.

Representative SOLARZ. You don't?

Mrs. NORWOOD. We try to report on what has happened. If we have ideas about what it ought to be, you wouldn't believe us when we told you what it really was.

Representative SOLARZ. I might. [Laughter.] You seem like an honest woman. You give us your best judgment, and I have a lot of respect for you.

Well, let me thank you all very much. This has been quite interesting. And if you can get some of those supplementary answers to us for the record, I would appreciate it. And next month we can talk about Mr. Wilson's book.

Mrs. NORWOOD. OK. I will have read it by then.

Representative SOLARZ. I look forward to these monthly reports.

Mrs. NORWOOD. Do you know who published it?

Representative SOLARZ. It may be the University of Chicago Press.

Mrs. NORWOOD. OK. All right. We will check it.

Representative SOLARZ. Thank you.

The hearing is adjourned.

[Whereupon, at 11 a.m., the committee adjourned, subject to the call of the Chair.]

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